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ABSTRACT

This paper reports a review of journal articles listed in the British Education Index and the Cumulative Index of Journals of Education under the keywords of "inset" or "inservice" and either Africa, sub-Saharan Africa, or one of the 50 sub-Saharan African countries by name. Reports from Nigeria and South Africa form a substantial part of the literature. The paper reviews the articles by subject: (1) "Conditions in Which Teachers Work," (2) "Variation in Teachers' Backgrounds, Practices, and In-service Needs," (3) "Teachers Changing Their Own Practice," (4) "In-service Activities Provide New Knowledge and Skills," (5) "Use of Distance Education," (6) "School Administration, Organization, and Whole School Policies," (7) "Sustainable Change versus Radical Solutions," and (8) "Closing Commentary." The paper also reviews the articles in reverse chronological order. Finally, the paper presents listings by country. (SM)

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EDUCATION RESEARCH

ED 432 578

IN SERVICE FOR TEACHER DEVELOPMENT IN SUB-SAHARAN AFRICA

A review of literature published between 1983-1997

Dr Martin Mouk

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Dr Martin Monk

Serial No. 30
ISBN: 1 86192 074 1

Department For International Development

DEPARTMENT FOR INTERNATIONAL DEVELOPMENT

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Sponsorship of the literature review and extent of the search

The literature search was carried out in the early summer of 1998 as a commission (R7145(from the UK government's Department for International Development.

This paper reports a review of journal articles to be found listed in the British Education Index (BEI) and the Cumulative Index of Journals of Education (CIJE) under the key word of *inset* or *in service* and either *Africa, sub-Saharan Africa* or one of the 50 sub-Saharan African countries by name (from *Angola* to *Zimbabwe*). Reports from Nigeria and South Africa form a substantial part of the literature: approximately 17% and 30% respectively. For half the countries in sub-Saharan Africa the literature search on in-service and related key words turned up no references at all.

Procedure leading to the summary points

- BIDS was used to search the BEI and CIJE electronically.
  The cited articles were located and read.
  Summaries of the articles were produced.
  Short one sentence statements of implications for the process of teacher development through in-service were drawn up.

- The implications were collected together and sorted into groups with similar foci.
  The criteria for summary point formation was that the implications should be related in some way with respect to teacher development through in-service.
  the summary points emerge from the collected and sorted implications.

Summary points

1. Teachers' actions are not ones of whim or fancy. They are constrained by the classroom resources, social as well as material, of the teacher's circumstances. Whilst variation is possible, it is within circumscribed limits. The material and social features of a teacher's environment exert selection pressures as to which varieties of action will continue to be sustainable in the classroom.

2. Although the teachers' circumstances exert selection pressures on which varieties of practice will survive, teachers are not homogenous in their pedagogic content knowledge. The teachers bring differing biographies to the classroom and therefore have different in-service needs.

3. In the literature there is a line of work that supports the idea of teachers reflecting on their own practice.

   * This is best done with the help of colleagues in school .
   * Local support groups are a necessary complementary strategy.
   * Inputs from advisory staff can be supportive.

   Changes to pedagogic content knowledge can be achieved with deliberate interventions as well as through the teachers own variations in practice.

4. We can distinguish a teacher's content knowledge, skills, meta knowledge about the nature of their subject and general affect, from their pedagogical content knowledge. Activities that will change a teacher's pedagogical content knowledge are best carried out with demonstration and coaching. In-service aimed at changing teachers' actions, rather than their knowledge, values, or affect, does require the teachers to practise those actions.

5. Distance education has many advantages for developing teachers' knowledge. It also can be used to develop affect and values. What is more difficult is to support change in teachers' skills through distance learning. The use of new curriculum materials is one possible strategy to help develop new pedagogic skills.

6. The circumstances which exert selection pressures for the teaching strategies that are workable, and against those which are not, can be modified through managerial intervention.

7. Because teacher development is an open process there are lots of loose ends. This is a recognition of the post-modern position that we cannot plan the future (modernism) the future evolves out of the present.

Articles that contain some comment on the conditions in which teachers work and how such conditions determine the selective retention of certain teaching strategies.

Miti & Herriot (1997) report on a Zambian cascade project with a budget of £13M over 7 years. Progress on teacher development and change with the AIMES project (Action to Improve English, Mathematics and Science) is reported as slow and disappointing. The report carries information on quality control systems and other managerial techniques. My interpretation of the report is that grand plans and management tools are of little value if you do not understand the reasons why teachers behave as they do in the first place.

Radical reform is unlikely to be implemented in a sustained way if it runs counter to the expectations of local people. Soudien & Colyn (1992) illustrate this by providing a warning report on how a well meant intervention (with support from the South African Committee for Higher Education (SACHED)) totally missed the target of local people's aspirations for their children's education. They worked as volunteer mathematics teacher trainers in a school for the children of squatters in the KTC area of Cape Town. Soudien and Colyn were offering an emancipatory, child-centred education, inspired by the writings of Freire, with a focus on investigational work in mathematics. The parents and teachers wanted a 'first rate' education for their children. For the local people first rate meant the children having a school uniform, there being a timetable with regular lessons in which the children sat at proper desks and learnt lessons from an expository teaching style. The authors bravely re-interpret their own failure in terms of the sedimentation of ideas in the local community received through the hegemony of the white middle-class and their approach to education. The recognition of the failure of the project is deflected by reference to resistance, compromise and contestation in the educational process.

Crossley & Guthrie (1987) review research on INSET in South Africa and the role of examinations in shaping classroom practice. They comment:

> (i) Inset should not be viewed in isolation but should form part of a continuous and systematic process of professional development.
> (ii) The trend is to remove the focus of activity from specialist institutions and concentrate upon individual schools and their personnel.

This helps to differentiate school based INSET from school focused INSET. The development of local clusters of schools involved in school focused INSET add mutual support. Crossly and Guthrie go on to observe,

> "A necessary, but not sufficient, condition of attempt to change classroom practice is that innovations should not be incongruent with teachers' and pupils' perceptions of the requirements of any public examination system."

> "Teachers are not generally irrational opponents of change but they rationally weigh alternatives according to the realities they perceive."

Teachers are severely constrained in what they can do by the resources they have to hand. Knowing fancy activities for pupils is of little value if there are no materials to support such activities. Peacock, (1992) gives a brief introduction to the In-Service Training and Assistance for Namibian Teachers (INSTANT) project where the Free University of Amsterdam and The University of Exeter provided expatriate experts to run "diffusion" workshops for science teachers. The three day workshops had the first day devoted to doing practical activities, the second to improvising apparatus and the third to brainstorming how to teach difficult topics. It was decided that kits of basic equipment like, scissors, paper clips, pins and glue, as well as more scientific

materials like weights, magnets and lenses, should be provided for any hope of teachers retaining any of the activities in their repertoires.

Teachers are often more realistic in their judgements on educational innovation than educational evangelists or researchers. Akinyemi (1986) interprets 48 Ilorin primary school teachers' lack of awareness and interest in educational technology as being a *phobia*. Whereas in fact the teachers simply did not have the equipment to hand. The author betrays himself with,

> "A few privileged primary schools in urban areas have some of the items (*of educational technology*) listed above."

Proposed changes involving technology need to be small scale, locally repeatable and workable within the constraints of current practice. van der Wal & Pienaar (1996) report on "Bringing Computers to Qwaqwa" a rural area of South Africa. Plans for expansion to other centres were put on hold due to costs and infrastructural problems: unreliable power supplies.

Salaries are an important aspect of the teacher's condition of service and poor remuneration is a determining factor of the degree of professionalism that can be expected. Teachers' poor pay, or worse - no pay, means educational administrators cannot expect to demand certain standards of professionalism. Osuala (1987) reports a survey of tutors working in adult literacy at the First School Leaving Certificate level in Anambara State, Nigeria. The major finding is that remuneration varies considerably with 172 out of the 303 sample never having been paid. Tutors lateness for class, or irregular attendance, can not be disciplined when people are unpaid. 97% of the sample said they would welcome training. For 84% this would be their first training. 40% had been tutors for less than 2 years, 38% for 3 to 5 years and 22% for more than 6 years. Teachers often show more dedication than they are either given credit for, or paid for.

How do head teachers and heads of department provide a clear vision of alternative futures, clear departmental objectives and motivation for their subordinates when the teachers' income from teaching is pitiably small ? Carey, & Dabor (1995), faced with a runaway deterioration of teacher quality and ever shortening length of service in Sierra Leone, pitched their in-service at heads of English language departments rather than un-promoted, un-trained classroom teachers. By focusing on middle management issues they hoped to promote school based teacher development. The heads of department had to be persuaded that they had a staff development responsibility and then handed tools and techniques to engage in staff development. The input was a series of 2 day workshops.

Highly skilled, well equipped teachers with relatively good salaries can adopt change. Olukoya (1986) reports workshops for medical teachers run between 1979 and 1985 at the College of Medicine in Lagos. The scheme has been extended to other colleges. The focus of activity was to develop self-instruction packages for medical students. The enterprise was underwritten by Mager's ideas on learning objectives. The workshop format was of cycles of formal input, followed by evening assignments and then mornings of practical group work. Some medical instructors followed up the workshop with videoing their own teaching and then discussing their teaching with colleagues. Such activity did change teaching habits.

The comfort in routine that enables teachers to go about their business is a powerful force of resistance to change. Uncertainty is unsettling. von Kotze (1995) reports adaptive resistance to new teaching methods by members of a re-habilitation centre run by a religious community in Durban S.A. The author raises the question of, "we taught them but did they learn ?" in connection with the introduction of experiential learning. The author claims that the goal of emancipation through experiential

learning can be subverted by teachers adopting the pedagogic techniques but rejecting the central concern for clients to find their own solutions - not prescriptive ones based on the tenets of some religious authority. von Kotze also considers whether it is indeed possible (we know it is not easy) for individuals to identify their needs, and feel comfortable doing so, when socialised into an authoritarian community.

Summary point 1

Teachers' actions are not ones of whim or fancy. They are constrained by the classroom resources, social as well as material, of the teacher's circumstances. Whilst variation is possible, it is within circumscribed limits. The material and social features of a teacher's environment exert selection pressures as to which varieties of action will continue to be sustainable in the classroom.

Articles recognising variation in teachers' backgrounds, practices and in-service needs.

Teachers are not a homogenous group. There is variation amongst the knowledge and skills of teachers which echoes the variation that one would find in the population at large. Akpe's (1991) survey of Nigerian pre-service teacher trainees showed that the trainees chose to study and teach those things they thought they were good at. In the sample population only 39.5% chose science and mathematics against 60.5% choosing humanities options. There lies at the heart of these statistics the common observation that nothing succeeds like success. Teachers are no different to others in the way they chose to direct their energies for future self-improvement.

Subject differences will influence which in-service is likely to be most beneficial. Oladejo (1991) laments the falling standards in ESL work due to the unbroken cycle of bad teachers producing bad students, who go on to become bad teachers. From his survey of 95 ESL teachers and 370 other-subject teachers he concluded that ESL teachers worked with larger classes, for longer hours, compared with their other-subject colleagues. This is attributed to English language being a core subject in Nigeria. Oledajo's implications are that due to varying workloads, the needs and priorities of teachers for in-service will vary widely between subject groups.

Teachers will use things they have confidence in. Practice in a safe environment (Joyce and Showers, 1988) enables them to build confidence. Teachers' aims for activities are powerful selectors of activities. The unqualified teacher may have quite different aims for an activity to the qualified teacher. Lubben (1994) reports on in-service (IMSTEP) for secondary mathematics and physics teachers in Swaziland who had poor or no qualifications to teach these subjects. The reported focus of attention was confidence building. This was achieved through regular informal meetings where attention was paid to topics, equipment and manipulative skills. The way in which specialist trainers can be blind to the needs of non-specialist trainees was of paramount concern. Differences in perspectives on the aims of science education need expression, discussion and development.

Macdonald et al. (1985) make a similar point in their review of the description of the changes brought about through the SEP programme in South Africa. The categories of concern used in the paper are mapped onto Gray's phases of:

- concern for security — with the teacher as subject specialist
- concern for methods — with the teacher in the classroom
- concern for aims — with the teacher as professional

The category of teacher as employee is flagged as alerting us to the problem of teachers' roles and role conflicts. One key message from this study is that teachers need different experiences from in-service at different times in their personal development. The early focus of in-service may be on subject content and only later the focus might shift to more professional concerns.

Macdonald et al.'s use of Gray's phases for inset provision parallels Beeby's (1966, 1980) more general work on educational systems, where the majority of teachers in any one educational system can be identified as being at a particular stage of development. The stages are the unskilled, mechanical, routine and professional stages. The in-service point one would want to make from Beeby's ideas is that teachers cannot turn their attention to fancy pedagogic tricks when they are still struggling with their own poor content knowledge.

The early concern for content knowledge is to be found in Kachelhoffer (1995) with the identification of under qualified teachers in Kwa Ndebele producing poor student learning. In his paper, *under qualification* is interpreted in terms of subject

knowledge. The paper reports an attempt to help mathematics and science teachers through specifically addressing their lack of content knowledge. The paper goes on to advocate what is effectively sponsored mobility for the "intelligent" with lengthened teacher training so that subject knowledge can be secured. Kachelhoffer adds that learning in a second language adds additional difficulties to the learning process. This is an issue that causes constant concern throughout sub-Saharan Africa.

Msanjila (1990) questions the decision to switch from one language (English) as a medium of instruction to another (Kiswahili) for teacher training colleges. Problems of meanings, collocations, register and familiarity of usage make inconsistencies in language policy a nightmare for teachers. Consistency in language policy needs to be accompanied by suitable plans for training. The choice of language as the medium of instruction is bound to have advantages and disadvantages no matter what the choice. The problem is choosing so the advantages support your programme and the disadvantages offer minimum damage.

Honig (1996) reports the way in which well intentioned government policies on the use of local languages in primary schools in Ethiopia actually lowered the participation rates in basic education: the drop reported is from 36% to 25%. Parents took their children out of the state schools. Honig makes the point that,

> "History has demonstrated that the inability to deal adequately with teachers in their central role condemns even the most enlightened educational reform to failure."

Kahn's (1990) survey of 74 science and mathematics teacher graduates from the University of Botswana, 12 science and mathematics teacher educators or education officers, and 72 classroom teachers - half with long experience - provided data for his study of attitudes to the content of initial teacher education courses in science and mathematics. The teachers showed most concern for:

- working with the less able pupils;
- science and mathematics in society;
- lesson presentation;
- classroom control;
- establishing aims and objectives for work.

Whilst the teacher trainer/ education officers were more concerned with:

- lesson presentation;
- aims and objectives;
- producing schemes of work;
- assessment of pupils;
- classroom questioning skills.

The implications are that people's concerns are congruent with their positions in a social institution such as schooling and education. The concomitant of this is that different positions give rise to different viewpoints and different sets of priorities for exactly the same feature of social life.

Summary point 2

Although the teachers' circumstances exert selection pressures on which varieties of practice will survive, teachers are not homogenous in their pedagogic content knowledge. The teachers bring differing biographies to the classroom and therefore have different in-service needs.

Articles that are relevant to teachers' changing their own practice.

Depressingly, Onocha & Okpala (1990) report how experienced integrated science teachers in Nigeria resort to much more monologue in their classes than do pre-service teachers in training. Pre-service student teachers use a lot more teacher prompting and even small group work. The data was collected by using observation schedules in integrated science classes together with an attitudinal survey. Amongst the pre-service teachers a positive attitude to integrated science correlated with a greater use of student activity in the class, but this was no the case for experienced teachers. The key difference between pre-service and experienced teachers is that pre-service teachers expect to be observed whilst at work. One place to start helping teachers to develop their own practice might be to get them to invite a colleague into lessons to systematically observe what happens and then discuss the record of the lesson. Of course this will take time and cost money for teacher release.

Rogan & Macdonald (1985), evaluating the SEP programme in Ciskei, Transkei, Soweto and Durban, comment that teachers need to experience new ways of working, either directly, or perhaps vicariously viewing videos, before they can have any confidence to adapt them. Rogan and Macdonald comment that in the South African context, the upgrading of black teachers subject knowledge is more pressing than introducing new pedagogies. When teachers have moved through the security phase of developing a gap between their content knowledge and that of the students they can move onto the method phase. After teachers have security with new pedagogic methods they are then in a position to adapt content and methods to suit their personal aims for the education of their students. Rogan and Macdonald think short regular meetings are more supportive of change than one off long workshops. The focus of supervisory visits should be on team-teaching, offering help and advice. The use of zonal clusters for grouping teachers on in-service helps to focus the groups attention on local problems that may vary from urban to rural and from one part of the country to another. The implications are that local groups, meeting regularly, building confidence in content is a good way to start in-service for under qualified teachers. Local conditions allow for faster or slower confidence building through adaptive stages.

Adler's (1997) article, written a decade later in a more positive political climate in South Africa, comments that there is a continuum from the formal - teacher as researcher - through to the informal of reflective writing on classroom experience. Adler proposes the "teacher as inquirer" as a suitable appellation. She wants to get teachers reflecting on their practice and writing it down no matter what the standard of writing.

Walker (1993, 1994) has a similar positive attitude to action research. Reporting the Primary Education Project (PREP) in Cape Town the 1993 paper makes several important points:

- most teachers do want to improve their practice, they will not have considered, let alone committed to, action research as a means of achieving this;
- action research as a means of teacher development can slide into an involvement mode, where teachers are part of a directed project, rather than participatory mode, where they direct their own project;
- publication of outcomes is the defining feature that differentiates plain development work from action research;
- action research "enquiries may help develop classroom practice but they will not necessarily shift into a critique of the contexts of that practice"
- it is useful to follow Grundy (1982) in recognising three modes of action research: the technical, the practical and the emancipatory.

Teachers can be reflective practitioners if they see a need for changing their working conditions, and there is a commitment to changed structural support from the system in which they are embedded, together with a recognition of the desirability of flexible transferable skills. My reading of this is that action research is no more easy to use as a tool for teacher development and change than other tools such as supportive coaching in classes or structured release programmes.

Berg & Todes (1986) report the history of the development of the Cape Teachers' Professional Association (CTPA) and its Education Research Committee (ERC) against a background of apartheid. What is of interest is the menu of project activities. These included: videotaped natural phenomena and demonstrations for use in science lessons; workshops on the use of the OHP; leadership skills courses; a Spring School crash course of 1 week in school subjects for pupils; Saturday School 10 week programmes; Teacher Opportunity Programmes to improve teaching skills. Pupils are probably more enthusiastic about out of school activities than teachers. Teacher development on a voluntary association basis is possible. But we don't have any good way of understanding or developing teachers' associations.

Bax (1995) introduces a promising comparison of the failure of in-service with "tissue rejection". Unfortunately the simile is not pursued. Instead Bax uses it as a springboard to introduce the English at Secondary Level (EASL) project for English language teachers in South Africa. The in-service activities reported were designed to further teacher development rather than to be teacher education or training. The principles alluded to in the title of the paper, "Principles for evaluating teacher development activities." are of:

- content negotiability, where teacher development provides the form but not the content of the in-service. The tutor can decide how to proceed but the teacher must decide what is of sufficient importance to pursue.
- transferability, where others must be able to do what we do. For Bax in-service providers must recognise we are all resource persons for each other.

Ballantyne & Tooth-Aston's (1989) article prompts the question of whether such self-help can ever, at best transcend, at weakest de-couple, the way in which education is very much an epiphenomenon of the economic and political. These two authors railed against the politics of apartheid and how it stood in contradiction to any attempt at environmental education, which the authors claimed, needs an open democratic society to be worthy of the name education. In recognising Grundy's (1982) distinction between action research that operates at the different levels of the technical, practical and emancipatory, reflective-practitioners, engaged in action research that is anything other than the emancipatory, might be seen as shufflers of deck chairs on sinking ocean liners.

Summary point 3

In the literature there is a line of work that supports the idea of teachers reflecting on their own practice.

* This is best done with the help of colleagues in school .
* Local support groups are a necessary complementary strategy.
* Inputs from advisory staff can be supportive.

Changes to pedagogic content knowledge can be achieved with deliberate interventions as well as through the teachers own variations in practice.

Articles that point to various ways in which in-service activities provide new knowledge and skills.

The single longest and most intensive in-service that all teachers undergo is their own experience learning as students. Stan Maher (1995) writes about battling to help teachers to overcome the tendency to teach as they were taught. In workshops targeted at Class 1 and 2 teachers in Cape Town teachers started out attending Saturday workshops at the Uluntu Centre in the Gugeletu township for a year. This was changed to an intensive 3 day input followed by 8 workshop sessions. The trainers used Rudolf Steiner's ideas, with which they were very familiar and in which they had a strong a personal belief. The trainers made regular use of sessional evaluation and programme evaluation. The report claims success. Their aim was to , "put the heart back into teaching." The combination of tutors' clear vision and boundless enthusiasm reversed the formative experiences of studentship .

One problem is that teachers need first hand experience of successful use of new methods to even consider using them routinely. This could be a chicken and egg situation. In a paper on workshops held in Botswana for primary teachers, Duffy (1993) reports how tutors worked directly with individual teachers to give them first hand experience of pupils successfully using novel learning strategies. The workshop methods were modelled as *contagion* rather than *cascade*. The intention was to stress quality in education through individualised programmes and to this end Duffy claims the maxim, "move from minimum for most, to best for each" was a useful directional aid.

Shommo (1995) reports a Sudanese experimental study where home economics teachers were trained to use critical thinking skills so as to introduce problem solving methods into their home economics teaching. The design of the study allowed comparisons to be made between the traditional and new problem solving methods whilst controlling for teacher and topic. The 4 day in-service delivered to 16 teachers of 234 students was deemed a success as judged by teacher's affective evaluation and student scores in tests. The implications appear to be that focused in-service can change teachers attitudes, modify their classroom behaviour and improve students' learning.

The Yankari National Park (Nigeria) was the site for a 2 day training workshop for teachers that focused on environmental education. The intention was to provide practical activities so that teachers developed awareness (action strategies) that were congruent with their knowledge and not at odds with it. Adara (1996) used questionnaire methods to monitor gains in awareness scores. Exposure to practical action strategies appeared to change skills, affect and values and started to bring these in line with scores for knowledge obtained by questionnaire.

Harber (1987) reports on theWest Midlands-West Africa Project (or UK geography teachers teaching about Senegal and the Gambia) with lessons for in-service training in general. He comments that one day general courses (for UK teachers) are evaluated as of little use for teacher change and even change to teachers values. The need to provide teachers with experience of specific skills is critically important. It is better to spend the one day (if that is all one has) on using specific materials. The advice to other trainers is clear: get people familiar with new materials before you engage them in general conversation. Work from the specific towards the general.

From work on improving the tuition of the French language in secondary schools in Zaire, Koivukari (1987) concludes that the efficient development of skills may require a more general understanding by teachers than simply skills training. Although the in-service focused on Saussure's ideas on linguistics, the conversations in the INSET programme (36 hours of in-service over 2 months for 12 teachers) spread to wider pedagogic issues. Sessions included conversations on cognitive development, the

psychology of learning and Berne's ideas on transactional analysis. Using direct observations, Koivukari claims to have detected changes in teachers classroom questioning styles with an increase in the use of open questions and a reduction in the use of closed questions.

Writing in 1987, Dienye reports from Nigeria on gains in score on the Nature of Scientific Knowledge Scale (NSKS) attributed to an in-service programme. The reported gains are independent of gender or previous qualification. The implications are that the meta-activity of understanding the nature of one's subject, rather than just the content of the subject, is also open to development through in-service work.

Peacock (1993) reports on the In-Service Training and Assistance for Namibian Teachers (INSTANT) project and lists 7 possible strategies for in service:

(a) full-time training;
(b) cascade dissemination
(c) advisory/ mentorship schemes
(d) (expatriate) experts
(e) diffusion by workshops
(f) distance learning

Peacock selects out (e) diffusion by workshop as an appropriate starting strategy. On review and evaluation it is suggested that strategy (c) - the development of a mentorship scheme with advisory teachers - should have been started at the same time, rather than left as a follow-on strategy. As an aside Peacock suggests that if stage models of teacher development (see reference to the work of Beeby, 1966) and change are correct then cascade strategies can not succeed as the targeted teacher typically hears the message only once.

Part-time or evening in-service is compared with long vacation or sandwich in-service for Cross River and Akwa Ibou states in a paper by Esu (1991). For in-service to be successful the implications of Esu's study are that:

- teachers decide their own needs;
- support is given by the administration and management;
- colleagues discuss and share ideas;
- evidence of gains in student learning is readily/quickly available;
- changes in teachers' practice are evaluated systematically;
- there is an assessment of learning outcomes;
- where coaching is used budgetary provision must be built in.

Labour intensive mentoring appears to offer no quick solution to countries faced with pressing needs on a large scale. In 1982, faced with 55,000 under-trained primary teachers, the Ministry of Education in Kenya planned to revive in-service provision. 3,500 primary teachers a year were enrolled in a distance education scheme that involved the use of study guides, radio programmes, an attempt to improve the turn around time on marking of assignments, together with 21 weeks of face to face tuition over 3 years. The planning was informed by mostly American literature on achievement and motivation. The literature directed the project team to devise tasks that were tightly structured, had a single purpose, involved classroom application and were to be completed in a short time scale. The distance learning instruction was designed to help teachers enjoy a series of quick successes. Gitau's (1987) paper reports plans, not outcomes. But, already the project team were aware of the fact that maintaining teachers' motivation is crucial in any distance education programme. It has to be carefully built in and cannot be left to chance.

If and when money becomes available to equip schools or colleges the problems are not over. Throwing money and equipment at teachers, without training, is not a

sensible solution. Laridon (1990) reports research in South Africa on teachers working with computer assisted instruction as being problematic. Instructors tend to relapse into dealing with technical issues of how to work the system, rather than content knowledge and skill issues. Students, and teachers on INSET, are reluctant to expose their ignorance to instructors and therefore instructors need to learn to work systematically around the room to monitor learning. Laridon criticises the on screen material as often insufficient for the task. Some on screen material can be of poor quality, misleading and even wrong. This is due to programmers not being subject specialists. The start up of any new cohort is exhausting for instructors as they are confronted with maximum ignorance in a short space of time.

Summary point 4

We can distinguish a teacher's content knowledge, skills, meta knowledge about the nature of their subject and general affect, from their pedagogical content knowledge. Activities that will change a teacher's pedagogical content knowledge are best carried out with demonstration and coaching. In-service aimed at changing teachers' actions, rather than their knowledge, values, or affect, does require the teachers to practise those actions.

Articles that look at the use of distance education through paper resources or other media.

Faced with a population scattered across rural areas distance education appears to be a way forward. Holmberg's (1985) paper comments on a distance education programme in Kenya and contrasts experiences of primary teachers, literacy tutors and paramedics. Where paramedics engage tutors on matters of course content, the education students are reported as only arguing over marks. Holmberg judged the education programme to contain material that was very arcane. Generally distance education is marred by slow administration, poor turn-around in marking assignments and still relatively high costs compared with local incomes. Distance education is a solution with its own problems.

A more positive report is of a programme of distance education for primary and middle school teachers comes from Ghana (Carr, 1987). This programme was started as a fire-fighting exercise in 1982. The target was the up-grading of 40,000 under qualified teachers, 3,500 of them were admitted to the programme each year. Postal tuition with textual materials was used. The teachers then met on 6 occasions for 3 day meetings to discuss the materials and had a total of 12 weeks a year of residential meetings. The training bill was half that of full-time training. The principal advantages of the mixed mode of distance education is that rapid expansion is possible at less cost when the instructional materials have been produced. The disadvantage for teacher training is the lack of school-based supervision.

Broadcast media such as radio and TV have long supported, and in some instances supplanted, textual resources for distance learning. Mojo (1992) makes the point that where the media infra-structure exists, teacher training can be added at marginal extra costs. It is suggested that (at the time of writing) an Institute for Distance Education for Teacher Training should be developed in South Africa.

Wal & Linde (1991) report on the use of computer assisted instruction to upgrade the subject knowledge of mathematics and science teachers in the Orange Free State, S.A. The Research Institute of Education Planning (RIEP) reports working with 5,417 teachers from 1976 onwards. CAI provides opportunities for repetition of learning tasks and small group work in learning. Wal and Linde comment that such instruction is motivating to most learners.

Traditionally distance education has involved the lone scholar linked to a tutor through textual resources. Shaibu (1990) looks at the possibilities of centralised/support service as a cost-effective way out of the school library chaos in Gongola State of Nigeria. The paper starts by railing against the deplorable state of school libraries in Nigeria, and then turns quickly to advocating the centralisation of library resources. Of course there are gains in economy due to centralising resources in libraries and media centres but these cost benefits from large scale installations can be off-set by diminished accessibility and loss of personal control for teachers. Perhaps, when considering distance education, the implication is to be cautious of the claims made by people with grand plans.

Chadwick (1990) notes the need to include instructional system design (ISD) principles into text production for school books. This also applies to distance learning materials. Chadwick's accusation is that the average school book author is ignorant of ISD and therefore produces texts that are actually difficult to learn from. Teachers themselves can be helped to change their practice if school books are written to ISD which thereby leads teachers to use new activities with students. Linking teacher development to the changing demands of a school curriculum reform, through the introduction of new school textbooks, might be an effective strand in distance education.

Summary point 5

Distance education has many advantages for developing teachers' knowledge. It also can be used to develop affect and values. What is more difficult is to support change in teachers' skills through distance learning. The use of new curriculum materials is one possible strategy to help develop new pedagogic skills.

Articles referring to school administration and organisation or whole school policies.

Kitavi & Westhuizen (1997) investigated the problems facing newly appointed principals in Kenya. A questionnaire survey of head teachers asked the heads to provide rankings of their possible problems. School fees and money matters come out as being of most concern. In special pleading, supported by reference to literature, Kitavi & Westhuizen want head teachers to receive more training as they are the most influential figures in any school. In a similar study focused on head teachers, Kogoe (1986) investigated the perceived administrative needs of school executives in Togo. The paper draws attention to the fact that administration is not the same as leadership. Kogoe claims head teachers need to adopt leadership roles by closer instructional supervision. In fact for secondary heads or heads in large schools this is not so easy and delegation to heads of department is important. The survey of 200 administrators and 177 teachers in Togo indicates that teachers expect leadership, whereas heads may prefer to see themselves as just administrators. The implications are that in-service training of head teachers to either take, or delegate, more active leadership through instructional supervision might take priority over in-service for teachers.

Brown & Reid (1990) are concerned about the cynicism, and even despair, that can set in when teachers on in-service are returned to schools where change is not possible. To deal with this they suggest that teacher change has to be set within the context of the whole school. Again, the recommendation comes that head teachers need to have been oriented or trained first. The co-ordination of INSET for personnel at sequential points in line management needs to be built into in-service planning: start with the head, then h.o.d.s, then teachers. Brown & Reid report on workshops held in Lilongwe and Mzuzu to help develop skills in heads of departments. The authors identify a flat management structure, of head teacher and the rest, as being a problem for teacher development in Malawian (African) schools. They suggest the devolution of many responsibilities and decision making to heads of department. They suggest that ideally workshops should be short and intensive (12 hour working days) with close contact between facilitator/tutors and participants. The need to build personal friendships between colleagues was seen as being an important task for the workshops. Newsletters, specifically targeted at heads of department on issues of line management, are suggested as one way of maintaining momentum.

The Lesotho Action Research Network (LEARN) uses a whole school approach. Teachers are encouraged to watch colleagues at work and then talk over the teaching styles and techniques used. Teachers in the schools involved started to use more open questions and make more explicit corrections on students' work. A monitorial system was simultaneously developed by some teachers to cope with the problems of marking the work of so many students. Sebatane (1994) reports on the involvement of 348 teachers in 45 primary schools, with an average class size of between 67:1 and 91:1. Sebatane claims that such action research builds self-confidence and resourcefulness and develops innovation directly from teachers' needs. A newsletter from the National University of Lesotho disseminates the products of teachers reflective, and reflexive, practice.

A paper reporting on the adoption of computers in schools in Kenya and Zimbabwe (Hawkridge, 1991) turns attention to private schools. It is commented that private schools often lead in the introduction of change and teacher development. Whereas Ministries of Education often lag innovative developments. The way in which Ministries will often seek to regularise and approve innovation is also commented on. Hawkridge thinks teacher resistance to development and change comes from lack of contact, control, confidence and appropriateness to the curriculum. This paper carries a Thatcherite message of market economics: watch what private schools are doing as they have the money, more freedom for manoeuvre and are more directly linked into the geo-political economy through tighter parental backing.

Working in Eritrea, Guariento (1997) raises the question of whether innovation can be successfully transplanted from one developing country to another ? Looking beyond the school, to the local administration, Guariento suggests that time spent in helping local administrations take responsibility for innovations, so they can work in partnership, is time well spent in the long-run even though it may appear to be frustrating in the short term. Two further point are made:

(i) teachers who are poorly paid and live in rural areas should *still* be asked to attend INSET on a *compulsory basis* (the local administration should handle this) but recognition must be given to their travelling time and out of pocket expenses.
(ii) responsibility should be delegated to local trainers to enhance the chances of sustainability. Appeals should be made to:
- performing competently before peers;
- altruism;
- and giving time off in lieu.

A survey of vocational training, in-service courses and higher education for graduates in Botswana (Mugisha & Mwamwenda, 1991) points to how career structure may be influential in promoting personal development of skills. Although not directly related to teaching there are lessons for the organisational administration of education and the provision of career pathways. The paper reports on the careers of economics and social science graduates from the University of Botswana who graduated between 1980 and 1983. Practical, on the job experience, helps in decision making about which further training to apply for. Mobility appears to enhance job satisfaction. It is claimed that in the commercial sector training improves qualification, employability, efficiency, productivity, self-confidence, job satisfaction and a sense of career direction. Perhaps there are lessons for education in this ?

Summary point 6

The circumstances which exert selection pressures for the teaching strategies that are workable, and against those which are not, can be modified through managerial intervention.

Articles that relate to the idea of sustainable change growing out of present practice rather than its replacement with radical solutions.

No one can deny that teacher change takes a long time and is likely to occur before students' performance shows similar gains. Modern management fashion for targets and indicators needs to take acount of this delay if it is to be used. Macdonald & Rogan (1988) report changes to teacher behaviour and student performance during the Science Education Project (SEP) programme in Ciskei, Transkei, Soweto and Durban. Using a Science Teacher Observation Schedule (STOS) the classroom practice of SEP teachers did move towards that of UK and Canadian teachers. Student performance in examinations did improve but was still poor.

Crowther (1995), a UK home economics teacher, reports on a brief visit to a school in Lesotho as an additional teacher. The usual issues are reported: poor facilities and low budgetary capitations; little participation by students in classrooms with no planned student activities; problems of learning in a second language; no direct linkage of education to employment opportunities. The implications are that seeing the problems is not difficult. The hard part is finding sustainable engines of long term development and growth.

O'Neill's (1995) paper reports misgivings over evaluations using naturalistic approaches (Guba & Lincoln 1981, 1989). Such evaluations involve iterative negotiations of critical accounts of the project. O'Neil's principle criticism focuses on the inappropriateness of the concept of negotiation in circumstances where power and power relationships are strong. Project workers are (not surprisingly) the most involved in the proposed changes to teachers' practice. Teachers themselves may have marginal interest in the proposed changes. Differences in communication skills, tenacity, abilities to represent the subtleties of a particular case and negotiating experience, all call into question the notion of a negotiated evaluation of educational projects. O'Neil comments on how formal evaluations are little used as sources of information for decision making. The particular evaluation discussed in the paper was of the School Science Project (SSP) in Kwazulu Natal. For me, the message is that our methodologies are poorly matched to the demands of our problems. There is also a warning to beware of people peddling algorithms for the easy resolution of your difficulties.

Daniels & Halamandaris (1992) provide a short paper in a professional, rather than academic journal, that makes some interesting points in a succinct way. The experience reported is that of Canadian educationists. The positive points are worth noting from Adams and Chen's (1981) work. There is a need for strong, but culturally sensitive leadership. There needs to be:

- credibility for the change proposed;
- functional relevance for the evaluation (this involves features of Adam's and Chen's International Development Educational Model (IDEM));
- adequate financial and physical resources;
- stability of personnel;
- adaptiveness of the project;
- sequencing of critical events;
- stability of the educational system in which the innovation is located.

A more cynical view would be something like, "Don't all project directors claim they have taken account of the above before their projects start ?", and "Don't they all blame inadequate features of the above at the end ?"

Summary point 7

Because teacher development is an open process there are lots of loose ends. This is a recognition of the post-modern position that we cannot plan the future (modernism) the future evolves out of the present.

Closing commentary

One message for in-service teacher development and change that emerges from this literature review is an echo of Asubel's dictum that one should first find out what one's students know and proceed from there: one should first find out what teachers can do and then proceed from there. Shulman's (1987) introduction of the term pedagogical content knowledge (pck) usefully captures that combination of content knowledge and pedagogic skills that is necessary for the organisation of classroom activities for learners. Teachers may need help, through in-service, with developing their content knowledge, their pedagogic skills or the realisaton of certain practices. Pedagogical content knowledge has a component that is to do with the teacher's ideas on what it is to be a good teacher and how one goes about that.

All teachers comment on how the physical environment of the classroom has a strong bearing on what they can attempt to do - numbers of students, seating, desk spaces, space to move around the room, availability of AVA, computers and even blackboards. This is obviously the physical component to their environment. All teachers also comment on how social and political factors influence the range of strategies they can use in the classroom. So normative practices, head teacher's opinions, parents' and students' expectations should also be considered as part of a teacher's environment. Together these constitute a social component. Classroom settings have both a physical and social components in which the teacher has to work.

For too long we have assumed that teachers select their pedagogical strategies from their stock of pck in a conscious and reflective way (Schon, 1983, 1987). Whereas teachers in what Beeby (1966, 1980) refers to as stages of development that are less than professional (the unskilled, mechanical or routine stages) may not be able to do this. Instead, the direction of cause and effect may be reversed. That is, it is not the teachers who chose to act in the classroom setting in which they find themselves, rather, it is the classroom settings that exert selection pressures on which of the strategies in the teacher's pck will survive in the teachers repertoires and which will be extinguished.

An understanding of the intimate interaction between a teacher's pck and the classroom setting is vital to any hope of developing the teacher's pedagogical content knowledge. In-service that ignores this interaction will produce changes that are short lived or still-born.

Beeby, C.E. (1966) *The quality of education in developing countries.* Cambridge MA: Harvard University Press.

Beeby, C.E. (1980) The thesis of stages fourteen years later. *International Review of Education*, 26: 451-474.

Feiter, L. de., Vonk, H. & Akker, J.van den. (1995) *Towards more effective science teacher development in Southern Africa.* Amsterdam: Free University Press.

Schon, D. A. (1983) *The reflective practitioner.* New York: Basic Books.

Schon, D. A. (1987) *Educating the reflective practitioner.* London: Jossey-Bass.

Shulman, L.S. (1987) Knowledge and teaching: foundations of the new reform. Harvard Educational Review, 57: 1-22.

Review of BEI and CIJE papers
in reverse chronological order

1997

Adler, J. (1997) Professionalism in process: mathematics teacher as researcher from a South African perspective. *Educational Action Research*, 5(1): 87-103.

This paper re-reports action research carried out by mathematics teachers in the Western Cape, S.A. much of it under the supervision of staff at the University of Cape Town. Adler comments that there is a continuum from the formal - teacher as researcher - through to the informal of reflective writing on classroom experience. Adler proposes the "teacher as inquirer" as a suitable appellation.

Further references:

Carr, W. & Kemis, S. (1986) *Becoming critical: education, knowledge and action research.* Lewes: Falmer Press.

Cochran-Smith, M. & Lytle, S.L. (1993) *Inside/outside: teachers' research and action knowledge.* New York: Teachers' College Press.

Elliott, J. (1991) *Action research for educational change.* Buckingham: Open University Press.

Implications

The author wants us to get teachers reflecting on their practice and writing it down no matter what the standard of writing.

Betts, S.C. & Norquest, J. (1997) Professional Development for Educators through Travel to Zimbabwe: One-Year Follow-up. *Journal of Family & Consumer Sciences.* 89(1): 50-53.

Guariento, W.A. (1997) Innovation Management Issues Raised by a Distance-Learning Project in Eritrea: Can Such Projects Be Successfully Transplanted from One Developing Country to Another?*System.* 25(3): 399-407.

This paper has several points to make. Two of the most relevant are:

(i) delegate responsibility to local trainers to enhance chances of sustainability. Appeals should be made to performing competently before peers, altruism and giving time off in lieu.

(ii) teachers who are poorly paid and live in rural areas should still be asked to attend INSET on a compulsory basis (the local administration should handle this) but recognition must be given to their travelling time and out of pocket expenses.

Further references

Kennedy, C. (1988) Evaluation of the management of change in ELT projects. *Applied Linguistics*, 9(4): 329-342.

Leach, F. (1991) Perception gaps in technical assistance projects: the Sudanese case. in M.K. Lewin & J.S. Stuart (eds.) *Educational innovation in developing countries.* London: Macmillan.

Implications

Time spent in helping local administrations take responsibility for innovations, so they can work in partnership, is time well spent in the long-run even though it may appear to be frustrating in the short term.

Kitavi, M.W. & Westhuizen, P.C. van der. (1997) Problems facing beginning principals in developing countries: a study of beginning principals in Kenya. *International Journal of Educational Development.* 17(3): 251-263.

This paper reports a questionnaire survey of head teachers on their rankings of their possible problems. School fees and money matters come out as being of most concern. In special pleading, supported by reference to literature, the authors want training for head teachers as they are the most influential figures in any school.

Further references

Lockhead, M.E. & Verspoor, A. (1991) *Improving primary education in developing countries.* New York: Oxford University Press.

Rondinelli, A., Middleton, J. & Verspoor. A. (1990) *Planning educational reforms in developing countries.* Durham, USA: Drake University Press.

Implications

Support from head teachers is an important part of changing classroom teachers' practice and must be incorporated into plans for teacher development and change.

Miti, M. & Herriot, A. (1997) Action to improve English, mathematics and science (AIEMS): a case study in Zambia - the start-up process. *International Journal of Educational Development,* 17(2): 163-172.

This paper reports a large scale cascade project with a budget of £13M over 7 years. The Self Help Action Plan for Education (SHAPE) focused on Action to Improve English Mathematics and Science (AIMES) in Zambia. Amongst the management tools reported are a "two way information flow matrix" and a "quality framework matrix". The tone of the report is very much that of a heavy total quality management approach. Teacher change is slow and disappointing.

Further references

Bax. S. (1995) Principles for evaluating teacher development activities. *ELT Journal.* 49(3): 262-71. See 1995 below.

Implications

My interpretation, from the report, is that grand plans and management tools are of little value if you do not understand the reasons why teachers behave as they do in the first place.

1996

Adara, O.A. (1996) Impact of an outdoor educational strategy on teacher profile in environmental education. *International Journal of Educational Development,* 16(3): 309-317.

The Yankari National Park was the site for a 2 day training workshop for teachers that focused on environmental education. The intention was to provide practical activities so that teachers developed awareness (action strategies) that were congruent with their knowledge and not at odds with it. Using questionnaire methods the author claims that there were gains in awareness scores which started to bring them in line with scores for knowledge.

Implications
There is no substitute for practical action to change knowledge, skills, affect and values.

Honig, B. (1996) Multilingual educational reform and teacher training in Ethiopia. *Language and Education*, 10(1): 1-12.

The principal focus of this paper is the way in which well intentioned government policies on the use of local languages in primary schools can actually lower the participation rates in basic education. The drop reported is from 36% to 25%. This author also reports as shocking the everyday conditions of education in Ethiopia.

Further references
Lewin, K. & Stuart, J.S. (eds.) (1991) *Educational Innovation in developing countries.* London: Macmillan.

Implications
"History has demonstrated that the inability to deal adequately with teachers in their central role condemns even the most enlightened educational reform to failure."

McLaughlin, D. (1996) Who Is to Retrain the Teacher Trainers?: A **Papua New Guinea** Case Study. *Teaching & Teacher Education*, 12(3): 285-301.

The overt concern of this paper is with training of local teachers. The issue of whether students' achievement correlates with teachers' length of post secondary schooling, or the number of teacher training courses completed, is raised early on. And thereby, the paper does a double take on the skills and competencies of the teacher trainers. Small tutor led tutorials are preferred as the best means of instruction for the exchange of ideas and the discussion of difficulties. Teachers who are interested enough in the progress of their students to be both intellectually critical and interpersonally warm are respected for their professional approach as they balance challenge against support. Learning in a second, or third, language means that students need time to draft, discuss, re-draft, discuss and publish.

Implications
Much of what is true for the learning of students is true for the learning of teachers.

Van der Wal, R.W.E. & Pienaar, A.J. (1996) Bringing Computers to Qwaqwa, South Africa. *Learning & Leading with Technology*, 24(4): 12-14.

This paper reports the introduction of computers and computer education to a small centre in a rural area. Plans for expansion to other centres were put on hold due to costs and infrastructural problems: unreliable power supplies.

Implications
Proposed changes need to be small scale, locally repeatable and workable within the constraints of current practice.

Wood, A. et al. (1996) Environmental Education in Suffolk. *Environmental Education*, 51: 4-12; 21-25.

This appears in the search because Alison Wood mentions both sub-Saharan Africa (Kenya) and in service for teachers in her article. Alison's article is less than 3 of the 14 pages. One point that emerges from the student exchange between Beccles in

Suffolk and two schools in Kenya is how isolated Beccles is and how the high school teachers worked in a very parochial way, prior to this initiative.

Implications
Teachers in the UK are subject to the pressures of the same nature, but not same quality, as teachers elsewhere: parochialism, tradition, competing demands on time and energy.

1995

Bax, S. (1995) Principles for Evaluating Teacher Development Activities. *ELT Journal*, 49(3): 262-71.

The introduction of a comparison of in-service with "tissue rejection" is a nice one but it is not pursued. Instead the author uses it as a springboard to introduce the English at Secondary Level (EASL) project for English language teachers in South Africa. The in-service activities reported were designed to further teacher development rather than to be teacher education or training. The principles alluded to in the title are:
- Content negotiability: teacher development provides the form and not the content. The tutor can decide how we proceed, the teacher must decide what is of sufficient importance to pursue.
- Transferability: others must be able to do what we do - we are all resource persons for each other.

Implications
There is a middle-way between the straight certain path of proselytising evangelism and the empty abyss of relativism. But it is a difficult path to tread. Perhaps talking of teacher development, not training, will provide tutors with the "pole star" they need.

Bourne, R. 1995) Where the real work begins. *Education*, 185(10): 12-13.

This article rehearses the problems facing the new administration in South Africa and logs some of the historical antecedents.

Carey, J. & Dabor, M. (1995) Management Education: An Approach to Improved English Language Training. *ELT Journal*, 49(1): 37-43.

Faced with a runaway deterioration of teacher quality and ever shortening length of service in Sierra Leone, the authors pitched their in service at heads of English language departments rather than un-promoted, un-trained classroom teachers. By focusing on middle management issues they hoped to promote school based teacher development. The heads of department had to be persuaded that they had a staff development responsibility and then handed tools and techniques to engage in staff development. The input was a series of 2 day workshops.

Implications
How do you provide a clear vision of an alternative future, clear departmental objectives and motivate your subordinates when their income has dropped to $10 a week ?

Crowther, S. (1995) Lesotho bound. *Modus*, 13(4): 113-115.

This is a report by a UK home economics teacher of a brief visit to a Lesotho school as an additional teacher. The usual issues are reported: poor facilities and low

budgetary capitations; little participation by students in classrooms with no planned student activities; problems of learning in a second language; no direct linkage of education to employment opportunities.

Implications
Seeing the problems is not a problem. The problem is finding sustainable engines of long term development and growth.

Kachelhoffer, P.M. (1995) Teacher enrichment programmes in Kwa Ndebele, South Africa. *Higher Education Policy*, 8(2): 19-22.

The fact that under qualified teachers produce poor student learning points to the need to remediate under qualification. In this paper under qualification is interpreted in terms of subject knowledge. The paper reports an attempt to help mathematics and science teachers through specifically addressing their lack of content knowledge. The paper goes on to advocate what is effectively sponsored mobility for the "intelligent" and lengthened teacher training so that subject knowledge can be secured. Learning in a second language is seen as adding additional hurdles to the learning process.

Further references
Travers, P.D. (1990) A five year teacher education programme: an old idea. *Education*, 111(2): 222-5.
Vonk, H. (1991) Some trends in the development of curricula for the professional preparation of primary and secondary teachers in Europe: a comparative study. *British Journal of Educational Studies*, 39(2): 117-37.

Implications
Pedagogic tricks are of little value if you don't know your subject.

Maher, S. (1995) Building a better conscience. *Child and Man*, 29(2): 10-12.

This is a strong piece of descriptive and evocative writing that reports a programme for "putting the heart back into teaching". Class 1 and 2 teachers in Cape Town started out attending Saturday workshops at the Uluntu Centre in the Gugeletu township for a year. This was changed to an intensive 3 day input followed by 8 workshop sessions. The trainers used Waldorf methods developed from Rudolf Steiner's approach to primary education. They were battling to help teachers to overcome the tendency to teach as they were taught. The trainers made regular use of sessional evaluation and programme evaluation. The report claims success.

Implications
A theory wagon built in the workshop of long experience and hitched to the engine of enthusiasm makes a powerful combination.

O'Neill, T. (1995) Implementation frailties of Guba and Lincoln's "Fourth generation" evaluation theory. *Studies in Educational Evaluation*, 21(1): 5-21.

This paper reports misgivings over the use of an evaluation system that involves iterative negotiations of critical accounts of the project being evaluated round what is termed an evaluation circle. The principle criticism focuses on the inappropriateness of the concept of negotiation in circumstances where power and power relationships are strong. Project workers are (not surprisingly) the most involved in the proposed changes to teachers' practice. Teachers themselves may have marginal interest in the proposed changes. Differences in communication skills, tenacity, abilities to represent the subtleties of a particular case and negotiating experience, all call into question the

notion of a negotiated evaluation. The authors comment on how formal evaluations are little used as sources of information for decision making. The evaluation was of the School Science Project (SSP) in Kwazulu Natal.

Further references

Guba, G.G. & Lincoln, Y.S. (1981) *Effective evaluation: improving the usefulness of evaluation results through responsive and naturalistic approaches.* San Francisco: Jossey-Bass.

Guba, G.G. & Lincoln, Y.S. (1989) *Fourth generation evaluation.* Newbury Park: Sage.

Implications

Our methodologies are poorly matched to the demands of our problems. Beware of people peddling algorithms for the easy resolution of your difficulties.

Ogundare, S.F. (1995) Correlates of perspectives: Nigerian pre-service social studies teachers and human rights education. Education Today, 45(3): 25-30.

This paper reports a survey of views on human rights by a sample of Nigerian social studies students. It is reported that there are statistically significant differences in the views held by urban and rural populations, old and young and those coming from families of differing sizes.

Implications

Don't treat teachers as a homogenous group. Local variations will require local solutions.

Shommo, M.I. (1995) Teaching home economics by a problem-solving approach in Sudanese secondary schools for girls. *British Journal of In-service Education*, 21(3): 319-329.

This paper reports an experimental study where home economics teachers were trained to use critical thinking skills so as to introduce problem solving methods into their home economics teaching. The design of the study allowed comparisons to be made between the traditional and new problem solving methods whilst controlling for teacher and topic. The 4 day in-service delivered to 16 teachers of 234 students was deemed a success as judged by teacher's affective evaluation and student scores in tests.

Implications

Focused in-service can change teachers attitudes, modify their classroom behaviour and improve students' learning.

Von Kotze, A. (1995) Contending Models of Learning and Teaching in the'Ministry. *International Journal of Lifelong Education*, 14(1): 23-37.

This paper reports adaptive resistance to the adoption of new teaching methods by members of a rehabilitation centre run by a religious community in Durban S.A. The author raises the question of, "we taught them but did they learn ?" in connection with the introduction of experiential learning. The author claims that the goal of emancipation through experiential learning can be subverted by teachers adopting the pedagogic techniques but rejecting the central concern for clients to find their own solutions - not prescriptive ones based on the tenets of some religious authority. The author also considers whether it is indeed possible (we know it is not easy) for

individuals to identify their needs, and feel comfortable doing so, when socialised into an authoritarian community.

Further references
Zimbardo, P., Ebbesen, E. & Maslach, C. (1977) *Influencing attitudes and changing behaviour.* Massachusetts: Addison Wesley.

Implications
The comfort in routine that enables teachers to go about their business is a powerful force of resistance to change. Uncertainty is unsettling. The first recourse, in reduction in irritation due to change, is assimilation rather than accommodation.

1994

Lubben, F. (1994) The convergence of teachers' and providers' views on INSET needs: the case of the non-specialist physics teacher in Swaziland. *International Journal of Educational Development*, 14(1): 43-49.

This paper reports ongoing in-service (IMSTEP) for secondary mathematics and physics teachers in Swaziland who had poor or no qualifications to teach these subjects. The reported focus of attention was confidence building. This was achieved through regular informal meetings where attention was paid to topics, equipment and manipulative skills. The way in which specialists can be blind to the needs of non-specialists was of paramount concern. Differences in perspectives on the aims of science education need expression, discussion and development.

Further reference
Beauchamp, L. & Boys, A. (1982) A strategy for uncovering teacher professional development needs. *British Journal of Inservice Education*, 8: 19-21.

Implications
Teachers will use things they have confidence in. Practice in a safe environment (Joyce and Showers, 1988) enables them to build confidence. Teachers' aims for activities are powerful selectors of activities. The unqualified teacher may have quite different aims for an activity to the qualified teacher.

Potgieter, D. & Olen, S. (1994) The Holdall Lectern and Prompt Poster. *International Information & Library Review*, 26(3): 181-93.

Sebatane, E.M. (1994) Enhancement of teacher capacities and capabilities in school-based assessment: Lesotho experience. *Assessment in Education*, 1(2): 223-234.

348 teachers in 45 primary schools, with an average class size of between 67: 1 and 91:1, were inducted into the Lesotho Action Research Network (LEARN). Teachers were encouraged to watch colleagues at work and then talk over the teaching styles and techniques used. Teachers started to use more open questions and make more explicit corrections on students' work. A monitorial system was simultaneously developed by some teachers to cope with problem of marking the work of so many students. It is claimed that such action research builds self-confidence and resourcefulness and develops innovation directly from teachers' needs. A newsletter from the National University of Lesotho disseminates the products of teachers reflective, and reflexive, practice.

Further references
Hustler, D., Cassidy, A. & Cuff, E.C. (1986) *Action Research in Classrooms and Schools.* London: Allen and Unwin.

Implications
Whole school professional self-help groups supported by some external funding together with the dissemination of ideas can make a difference to how teachers teach.

Walker, M. (1994) Professional development through action research in township primary schools in South Africa. *International Journal of Educational Development*, 14(1): 65-73.

This paper reports the introduction of action research for primary teachers through the Primary Education Project (PREP) in Cape Town. The author stresses how teachers' collegial relationships are very important for mutual support, and thereby, personal development. Reference is made to Fullan's (1991) ideas on the triadic interrelationship between new methods, new materials and new theories of learning.

Implications
One of the author's implications is that if one wants to introduce action research then teachers need systematic training in how to go about this. My implications are that mutual support groups are vital to any success.

1993

Bobda, A.S. (1993) English pronunciation in Cameroon: conflicts and consequences. *Journal of Multilingual and Multicultural Development*, 14(6): 435-445.

This paper compares the English language taught and used in school with the English in the community and finds gaps. There are weak echoes of the 60's debate about standard and non-standard English in UK schools. This paper is more concerned with the phonological. The conclusion are that teachers should be bi-dialectical.

Duffy, A. (1993) Steps towards new horizons. *International Journal of Early Childhood*. 25(1): 49-53.

This paper reports workshops held in Botswana for primary teachers when there were specific subject days: mathematics days and science days etc. The intention was to stress quality in education and to this end the maxim, "move from minimum for most to best for each" was a useful directional aid. The workshop methods were modelled as *contagion* rather than *cascade*. That is tutors worked directly with individual teachers to give them first hand experience of pupils successfully using novel learning strategies. The author hopes we can trust children as learners and teachers as researchers.

Implications
For me, the most important implication is that teachers need first hand experience of successful use of new methods to even consider using such methods routinely.

Jones, T.W. (1993) International Special Education Inservice Training: Challenges and Solutions. *Teacher Education & Special Education*, 16(4): 297-302.

A successful consultancy workshop by staff from Gallandet University in the USA to Liaoning Normal School of Special Education, China, focused on the development of teaching methods for deaf children.

Implications
* Model classroom methods through the in-service methods.
* Allow teachers time to assess their own needs and expectations at the beginning.
* Allow time for discussion.
* Have an overarching framework in mind to set developments against.
* Choose your team carefully.

Peacock, A. (1993) The in-service training of primary teachers in science in Namibia. *British Journal of In-service Education*, 19(2): 21-26.

This paper reports on the In-Service Training and Assistance for Namibian Teachers (INSTANT) project. Following a listing of 7 strategies for in service:

(a) full-time training;
(b) cascade dissemination
(c) advisory/ mentorship schemes
(d) (expatriate) experts
(e) diffusion by workshops
(f) distance learning

The author selects out (e) diffusion by workshop as an appropriate starting strategy. On review and evaluation it is suggested that strategy (c) the development of a mentorship scheme with advisory teachers should have been started at the same time rather than left as a strategy to move on to. As an aside the author suggests that if stage models of teacher development and change are correct then cascade strategies can not succeed as the targeted teacher typically hears the message only once.

Further references
Ashton, P., Henderson, E. & Peacock, A. (1989) *Teacher Education through Classroom Evaluation*. London: Routledge Educational.

Implications
I am reminded of the PKG project in Indonesia where a cadre of teacher "instructors" worked on mentoring/advising teachers whilst still working in the classroom themselves.

Walker, M. (1993) Developing the theory and practice of action research: a South African case. *Educational Action Research*, 1(1): 95-109.

A different report coming from the Primary Education Project (PREP) in Cape Town. The paper makes several important points:

- most teachers do want to improve their practice, they will not have considered, let alone committed to, action research as a means of achieving this;
- action research as a means of teacher development can slide into an involvement mode, where teachers are part of a directed project, rather than participatory mode, where they direct their own project;
- publication of outcomes is the defining feature that differentiates plain development work from action research;

- action research "enquiries may help develop classroom practice but they will not necessarily shift into a critique of the contexts of that practice"
- it is useful to follow Grundy in recognising three modes of action research: the technical, the practical and the emancipatory.

Teachers can be reflective practitioners if they see a need for changing their working conditions, and there is a commitment to changed structural support from the system in which they are embedded, together with a recognition of the desirability of flexible transferable skills.

Further references

Grundy, S. (1982) Three modes of action research. in S.Kemmis and R.McTaggart (eds.) *The action research reader.* Geelong: Deaking University Press.

Implications

My reading of this is that action research is no more easy to use as a tool for teacher development and change than other tools such as supportive coaching in classes or structured release programmes.

1992

Daniels, K.R. & Halamandaris, P.G. (1992) In-service training in Swaziland and Malawi: application of a process model for development education. *International Journal of Educational Management*, 6(5): 27-31.

This is a short paper in a professional, rather than academic journal, that makes some interesting points in a succinct way. The experience reported is that of Canadian educationists. These points are worth noting from Adams and Chen's (1981) work. There is a need for strong, but culturally sensitive leadership. There needs to be:

- credibility for the change proposed;
- functional relevance for the evaluation (this involves features of Adams and Chen's International Development Educational Model (IDEM));
- adequate financial and physical resources;
- stability of personnel;
- adaptiveness of the project;
- sequencing of critical events;
- stability of the educational system in which the innovation is located.

Further references

Adams, R. & Chen, D. (1981) *The process of educational innovation: an international perspective.* Paris: UNESCO.

Quinn, J.B. (1980) *Strategies for change: logical incrementalism.* Homewood, Il.: Irwin.

Rondinelli, D. (1986) Improving development management: lessons from the evaluations of USAID projects in Africa. *International review of Administrative Science,* 52: 421-45.

Wilson, D.N. (1987) Two decades of planned educational expansion in developing nations: an examination of success, failures and change. *Canadian and International Education,* 16(5): 24-38.

Implications

There is a cynical view which goes something like, don't all project directors claim they have taken account of the above before their projects start, and don't they all blame combinations of inadequate features of the above at the end ? More seriously, identifying key issues is not the same as finding workable solutions. Iterative evaluation can help but is not a sure fire recipe for success.

Moja, T. (1992) Teacher education from classroom broadcasts for the new South Africa. *Educational Media* International, 29(3): 171-174.

This article involves special pleading for the planning of teacher training to ride on the back of curriculum development work using broadcast media: radio and TV. The point being made is that where the infra-structure exists, teacher training can be added at marginal extra costs. It is suggested that an Institute for Distance Education for Teacher Training should be developed in South Africa.

Implications
Linking teacher training to curriculum reform has long been known to be more effective than simply doing in-service. Using media already developed for curriculum content support work looks very sensible.

Peacock, A. (1992) Developing science teaching in Namibian primary schools. *Primary Science Review*, 24: 6-8.

A brief introduction to the In-Service Training and Assistance for Namibian Teachers (INSTANT) project where the Free University of Amsterdam and The University of Exeter provided expatriate experts to run "diffusion" workshops for science teachers. The three day workshops had the first day devoted to doing practical activities, the second to improvising apparatus and the third to brainstorming how to teach difficult topics. It was decided that kits of basic equipment like, scissors, paper clips, pins and glue as well as more scientific materials like weights, magnets and lenses should be provided for schools.

Implications
Teachers are severely constrained in what they can do by the resources they have to hand. Knowing fancy activities for pupils is of little value if there aren't the materials to support such activities.

Soudien, C. & Colyn, W. (1992) The Safety of Theory: Working with Educators in a Squatter Community. *Journal of Educational Thought*, 26(3): 258-71.

This is a salutary report on how well meant intervention with support from the South African Committee for Higher Education (SACHED) can totally miss the target of local people's aspirations for their children's education. The authors worked as volunteer mathematics teacher trainers in a school for the children of squatters in the KTC area of Cape Town. The teacher trainers were offering a Freire inspired, emancipatory, child-centred education with a focus on investigational work in mathematics. The parents and volunteer teachers wanted a first rate education for their children. For the local people first rate meant the children having a school uniform, there being a timetable with regular lessons in which the children sat at proper desks and learnt lessons from expository teachers.

The authors bravely re-interpret their own failure in terms of the sedimentation of ideas in the local community received through the hegemony of the white middle class and their approach to education. The failure is deflected by reference to resistance, compromise and contestation in the educational process.

Further references
Giroux, H.A. & McClaren, P. (1986) Teacher education and the politics of engagement: the case for a democratic schooling. *Harvard Educational Review*, 56(3): 213-238.

Implications
Radical reform is unlikely to be implemented in a sustained way if it runs counter to the expectations of local people.

Taylor, R. (1992) The Production of Training Packs in In-Service Teacher Training. *ELT Journal*, 46(4): 356-61.

Vlaardingerbroek, B. (1992) Integrated Primary Schooling of Blind Children in **Papua New Guinea**. *International Journal of Rehabilitation Research*, 15(2): 162-65.

1991

Adigwe, J.C. (1991) Problem-solving processes of pre-service chemistry teachers in Nigeria. *Research in Science and Technological Education*, 9(1): 107-120.

This report is written in a vague general language that makes it difficult to appreciate quite how the behaviour of those who can problem solve in chemistry is different from those who can not. The opening of the report endorses the view that subject knowledge must take priority in teacher improvement.

Implications
There is a parallel to be drawn between problem solving in chemistry and problem solving as a professional teacher inspecting one's own pedagogy. Issues of identifying appropriate variables and causal linkages, overcoming "over focusing" and thereby being blinkered to the "real" problem in the classroom, learning to apply a search strategies systematically and finding ways to formalise ideas in theoretical relationships are appropriate to both problem solving and being a better teacher.

Akpe, C.S. (1991) Choice of teaching subjects in pre-service teacher education in Nigeria. *Journal of Education for Teaching*, 17(2): 213-219.

The outcome of this survey is that teachers chose to do those things they think they are good at. In the sample population only 39.5% chose science and mathematics against 60.5% choosing humanities options.

Implications
In-service for teacher change and development in areas outside a teacher's preferred area of expertise may not be well received.

Didillon, H. & Vandewiele, M. (1991) Interventions pedagogiques des psychologiques au service de l'enfant d'age prescolaire en Afrique Noir. *Scientia Paedagogica Experimentalis*, 28(1): 19-26.

Esu, A.E.O. (1991) In-service Teacher Education in Nigeria: A Case Study. *Journal of Education for Teaching*, 17(2): 189-99.

Part-time or evening in-service is compared with long vacation or sandwich in-service for Cross River and Akwa Ibou states.

Implications
For in-service to be successful it is recommended that:
- teachers decide their own needs;
- support is given by the administration and management
- colleagues discuss and share ideas;
- evidence of gains in student learning is readily/quickly available;
- changes in teachers' practice are evaluated systematically;
- there is an assessment of learning outcomes;
- coaching and visiting is budgeted for.

Hawkridge, D. (1991) Computers in Third World Schools: African Advances. *Educational & Training Technology International*, 28(1): 55-70.

This paper reports on the adoption of computers in schools in Kenya and Zimbabwe. The way in which private schools often lead in terms of what is workable is commented on. The way in which Ministries of Education often lag innovative developments is mentioned. The way in which Ministries will often seek to regularise and approve innovation is commented on. Teacher resistance comes from lack of contact, control, confidence and appropriateness to the curriculum.

Implications
A rather Thatcherite message of market economics: watch what private schools are doing as they have the money, more freedom for manoeuvre and are more directly linked into the geo-political economy through tighter parental backing.

Mugisha, R.X. & Mwamwenda, T.S. (1991) Vocational training, in-service courses and higher education for graduates in Botswana. *Studies in Higher Education*, 16(3): 343-354.

At first this paper appears to have little to do with teacher change and development and yet in studying graduate career trajectories there are lessons to be learnt that apply to teacher development. The paper reports on the careers of economics and social science graduates from the University of Botswana who graduated between 1980 and 1983. Practical, on the job experience, helps in decision making about which further training to apply for. Mobility enhances job satisfaction. It is claimed that training improves qualification, employability, efficiency, productivity, self-confidence, job satisfaction and a sense of career direction.

Implications
Teacher development may come from changed parameters of career progression as much as through specific training programmes.

Oladejo, J. (1991) The Teacher Factor in the Effective Teaching and Learning of ESL in Developing English Speaking Countries: The Case of Nigeria. *Journal of Multilingual & Multicultural Development*, 12(3): 195-204.

This paper laments the falling standards in ESL work due to the unbroken cycle of bad teachers producing bad students, who go on to become bad teachers. The survey of 95 ESL teachers and 370 other-subject teachers revealed that ESL teachers worked with larger classes for longer hours compared with their other-subject colleagues. This is attributed to English language being a core subject.

Implications
Due to varying workloads, the needs and priorities of teachers for in-service will vary wildly between subject groups.

Robinson, B. (1991) Distance Education for In-service Teacher Education in the **United Kingdom**. *Action in Teacher Education*, 13(3): 60-63.

Tambo, L.I. (1991) Primary Health Care in Africa: Implications for Teacher Education. *Action in Teacher Education*, 13(3): 48-52.

Wal, R.W.E. van der. & Linde, H.J. van der. (1991) Computer-assisted science instruction: an experience in developing communities within the South African context. *Educational and Training Technology International*, 28(3): 189-195.

This paper reports the use of computer assisted instruction to upgrade the subject knowledge of mathematics and science teachers in the Orange Free State, S.A. The Research Institute of Education Planning (RIEP) reports working with 5,417 teachers from 1976 onwards. CAI provides opportunities for repetition of learning tasks and small group work in learning. Such instruction is motivating to most learners.

Further references
Wilkinson, F.J., Reuter, M.A. & Kriel, C.F. (1987) An analysis of the problems experienced by teachers of physical science in some developing states within the S.A. context. *South African Journal of Education*, 7(1): 47-52.

Implications
If the focus of teacher upgrading is on content knowledge then CAI, perhaps through distance learning, has a contribution to make.

1990

Brown, M. & Reid, D.J. (1990) Black for the people: green for the land: red for the blood of the martyrs: a case study of INSET in Malawi. *Research in Education*, 44: 93-107.

This is a report of workshops held in Lilongwe and Mzuzu to help develop skills in heads of departments. The authors identify a flat management structure, of head teacher and the rest, as being a problem for teacher development in Malawian (African) schools. They suggest the devolution of many responsibilities and decision making to heads of department. The workshops themselves provide interesting ideas on how to run workshops. The workshop was short and intensive (12 hour working days) with close contact between facilitator/tutors and participants. The need to build personal friendships between colleagues was seen as being an important task for the workshops. It is suggested that to avoid cynicism, and even despair, setting in participant h.o.d.s should be returned to schools where change is possible. That is the head teachers need to have been trained first. Newsletters specifically targeted on issues of line management as a head of department are suggested as one way of maintaining momentum.

Further references
Caldwell, B.J. & Spinks, J.M. (1988) *The self-managing school*. Lewes: Falmer Press.

Implications
Teacher change has to be set within a context of whole school change. A top-down approach might be interpreted in terms of co-ordinating INSET for personnel at sequential points in line management. Start with the head, then h.o d.s, then teachers.

Chadwick, C.I. (1990) Instructional Development and **Third World** Textbooks. *Educational Technology Research & Development*, 38(3): 51-59.

This is a championing of the need to include instructional system design (ISD) principles into text production for school books. The accusation is that the average school book author is ignorant of ISD and therefore produces texts that are difficult to learn from.

Implications
Teachers can be helped to change their practice if instructional systems design used in school books leads them to new activities for students.

Kahn, Michael. (1990) Teachers, tutors and inspectors: views of pre-service teacher education in Botswana. *Educational Review*, 42(1): 3-12.

A survey of 74 science and mathematics teacher graduates from the University of Botswana, 12 science and mathematics teacher educators or education officers, and 72 classroom teachers - half with long experience - provided data for this study of attitudes to the content of initial teacher education courses in science and mathematics. The teachers showed most concern for:

- working with the less able pupils;
- science and mathematics in society;
- lesson presentation;
- classroom control;
- establishing aims and objectives for work.

Whilst the teacher trainer/ education officers were more concerned with:

- lesson presentation;
- aims and objectives;
- producing schemes of work;
- assessment of pupils;
- classroom questioning skills.

Further references
Patrick, H., Bernbaum, G. & Reid, K. (1982) *The structure and process of initial teacher education in England and Wales*. Leicester: University of Leicester.
Woolnough, B. (1980) The training of science teachers - perceptions of providers and consumers. *Education in Science*, Nov: 27-30.

Implications
People's concerns are congruent with their positions in a social institution, like schooling and education. The concomitant of this is that different positions give rise to different viewpoints and different sets of priorities for exactly the same feature of social life.

Khan, E.H. & Sharma, A.K. (1990) Implementation and Evaluation of Computer Science in an **Indian** Secondary School. *Computers & Education*. 14(4): 343-55.

There was an element of teacher development in the introduction of computer studies and computers into the Indian School in Bahrain.

Implications
If a piece of technology offers liberation in terms of when things are done and what is done, then it will be taken up and used. Technology for its own sake generally will be ignored by teachers.

Laridon, P.E. (1990) The Role of the Instructor in a Computer-Based Interactive Videodisc Education Environment. *Educational & Training Technology International*, 27(4): 365-74.

This report takes the work of an instructor working with computer assisted instruction as being problematic. Instructors tend to relapse into dealing with technical issues of how to work the system, rather than content knowledge and skill issues. Students and teachers on INSET are reluctant to expose their ignorance to instructors and therefore instructors need to work systematically around the room to monitor learning. The on screen material is often insufficient for the task and needs instructor supplementation. Some on screen material can be of poor quality, misleading and even wrong. This is due to programmers not being subject specialists. The start up of any new cohort is exhausting for instructors as they are confronted with maximum ignorance in a short space of time.

Implications
Helping any teacher to work around a room systematically and to deal with learning rather than technical matters is not an easy task. The addition of computers does not change this problem.

Msanjila, Y.P. (1990) Problems of teaching through the medium of Kiswahili in teacher training colleges in Tanzania. *Journal of Multilingual and Multicultural Development*, 11(4): 307-317.

The decision to switch from one language (English) as a medium of instruction to another (Kiswahili) for teacher training colleges is questioned by the author. Problems of meanings, collocations, register and familiarity of usage make inconsistencies in language policy a nightmare for teachers. Consistency in language policy needs to be accompanied by suitable plans for training.

Implications
The choice of language as the medium of instruction is bound to have advantages and disadvantages no matter what the choice. The problem is choosing so the advantages support your programme and the disadvantages offer minimum damage.

Onocha, C. & Okpala, P. (1990) Classroom interaction patterns of practising and pre-service teachers of integrated science. *Research in Education*, 43: 23-31.

This is a very depressing report on how experienced integrated science teachers in Nigeria resort to much more monologue in their classes than do teachers in training. Pre-service student teachers use a lot more teacher prompting and even small group work. The data was collected by using observation schedules in integrated science classes together with an attitudinal survey. Amongst the pre-service teachers a positive attitude to integrated science correlated with a greater use of student activity in the class. Amongst experienced teachers there was no correlation between positive attitude to integrated science and classroom activities for students.

Further references

Zahn, R.D. (1976) The use of interaction analysis in supervising student teachers. in E.J.Amidon & J.B.Hough (eds.) *Interaction analysis, theory, research and application.* New York: Addison Wesley.

Furst, N. (1976) The effect of training in interaction analysis on the behaviour of teachers in secondary schools. in E.J.Amidon & J.B.Hough (eds.) *Interaction analysis, theory, research and application.* New York: Addison Wesley.

Implications

One place to start helping teachers to develop their practice is to get them to ask a college to systematically record what happens in their class and then discuss the observations made on their lesson with their colleague.

Shaibu, S. (1990) Centralised/support service as a cost-effective way out of the school library chaos in Gongola State of Nigeria. *Education Libraries Journal*, 33(2): 23-33.

This paper starts by railing against the deplorable state of school libraries in Nigeria, and then turns quickly to the language of prescription.

Implications

There are gains in economy due to centralising resources in libraries and media centres to benefit from larger scale installations that are offset by diminished accessibility and loss of personal control for teachers. Beware of media people with grand plans.

1989

Adeyemi, M.B. (1989) Preparing Secondary School Teachers of Social Studies in Nigeria. *Social Studies*, 80(5): 203-04.

A slightly irritating "should" list that slides into a "must" position.

Implications

Find out what "is" and why before invoking any "shoulds" and "musts".

Ballantyne, R.R. & Tooth-Aston, P.J. (1989) In-service environmental teacher training in an apartheid education system. *Environmental Education and Information*, 8(1): 1-10.

The authors of this paper rail against the politics of apartheid and how it stands in contradiction to any attempt at environmental education, which the authors claim, needs an open democratic society to be worthy of the name education.

Implications

My musing is: Education is an epiphenomenon of the political and economic. The radical's problem has always been one of, at best , transcending, and at weakest, de-coupling, the causative links. Can reflective practitioners engaged in action research be any more than shufflers of deck chairs on sinking ocean liners ?

Faraj, A.H. & Tarvin, W.L. (1989) Curricular Change and In-Service Teacher Training Programmes in Developing **South Asian** Countries. *Journal of Curriculum Studies*, 21(6): 567-71.

The authors remind us that the 1980s was a decade of massive in-service programmes in South East Asia, particularly in vocational education and science education. They distinguish ad-hoc in-service, which is essentially fire fighting, from the need to plan and sustain on-going in-service.

Further references
Hughes, M. (ed) (1975) *Administering Education: an international challenge*. London: Athlone Press.

Implications
Sustained long term teacher development requires a rather different pattern of in-service from the fire fighting of massive quick training programmes.

Nziramasanga, C. (1989) A View from Zimbabwe. Citizenship for the 21st Century: The Role of Social Studies, Third in a Series. *Social Education*, 53(1): 25-28.

This paper is instructive in its approach to rhetoric. It starts with alarmism and then trumpets a call to integrated approaches to social studies. There is an analytic categorisation that subverts the integrated aspirations. The paper ends with a utopian prescription for teacher education to carry the project forward.

Implications
Beware of authors enthusiastically endorsing future radical programmes.

1988

Abolaji, G. & Reneau, F.W. (1988) In-service Needs and Problems of Agricultural Science Teachers in Kwara State, Nigeria. *Journal of the American Association of Teacher Educators in Agriculture*, 29(3): 43-49.

Akpe, C.S. (1988) Using consumer evaluation to improve college curricula in Nigerian teacher training. *Journal of Education for Teaching*, 14(1): 85-90.

This report of the evaluation of a B.Ed. programme by 54 male and 60 female student teachers in Port Harcourt follows the decline in intake from 210 in 1981/2 to 46 in 1985/6. The generally negative evaluation of the programme raises issues of quality control for such programmes run in affiliation with the University of Ibadan.

Implications
There is a problem in judging whether poor quality education is better than no education. The issue of how to make things better is a problem of a different magnitude.

Diatan, S. (1988) Teaching in Tanzania. *Links*, 13(3): 40-41.

This is a two page report of a personal journey to teach in Mwanza by a VSO commerce teacher volunteer. The issues of selective education, ill health, overcrowded classes, second language learning, electricity and clean water are all touched on briefly. The discussion point appears to be that there is happiness in simplicity.

Implications
Where is the line between happiness in simplicity and fortitude in the face of adversity ? This article could be dismissed as slight, or recognised as deeply worrying. What are we trying to improve education for ?

MacDonald, M.A. & Rogan, J.M. (1988) Innovation in South African Science Education (Part I): Science Teaching Observed. *Science Education*, 72(2): 225-36.

This paper reports on changes to teacher behaviour and student performance during the Science Education Project (SEP) programme in Ciskei, Transkei, Soweto and Durban. Using a Science Teacher Observation Schedule (STOS) the classroom practice of SEP teachers did move towards that of UK and Canadian teachers. Student performance in examinations did improve but was still poor.

Implications
Teacher change takes a long time and is likely to occur before students' performance shows the same size in gains.

1987

Carr, R. (1987) The modular teacher training programme, Ghana. *Open Learning*, 2(3): 50-51.

A programme of distance education for primary and middle school teachers, started as a fire-fighting exercise in 1982, had 3,500 students admitted to the programme each year. The target was the up-grading of 40,000 under qualified teachers. Using textual materials, 18 days a year of 3 day meetings and a total of 12 weeks a year of residential meetings, the training bill was half that of full-time training. The principal advantages of such distance education are that rapid expansion is possible at marginal cost when the instructional materials have been produced. The disadvantage for teacher training is the lack of school-based supervision.

Further references
Brophy, M. & Dudley, B. (1982) Patterns of distance teaching in teacher education. *Journal of Education for Teaching*, 8(2)

Implications
Distance education with workshops and residential periods can be cheap for large volume training.

Crossley, M. & Guthrie, G. (1987) Current Research in **Developing Countries**: INSET and the Impact of Examinations on Classroom Practice. *Teaching & Teacher Education*, 3(1): 65-76.

This is a review paper that addresses recent research on the two issues of INSET and the role of examinations in shaping classroom practice. A claim is made for two principles of INSET:
(i) Inset should not be viewed in isolation but should form part of a continuous and systematic process of professional development.
(ii) The trend is to remove the focus of activity from specialist institutions and concentrate upon individual schools and their personnel. This helps to differentiate school based INSET from school focused INSET. The development of local clusters of schools involved in school focused INSET add mutual support.

Implications
Best achieved with two quotes:

"Teachers are not generally irrational opponents of change but they rationally weigh alternatives according to the realities they perceive."

"A necessary, but not sufficient, condition of attempt to change classroom practice is that innovations should not be incongruent with teachers' and pupils' perceptions of the requirements of any public examination system."

Dienye, N.E. (1987) The effect of in-service science education. *British Journal of In-Service Education.* 14(1): 48-51; 55.

This paper reports gains in score on the Nature of Scientific Knowledge Scale (NSKS) attributed to an in-service programme that are independent of gender or previous qualification.

Implications
The meta-activity of understanding the nature of one's subject, rather than just the content of the subject, is open to development through in-service work.

Gitau, B.K. (1987) Achievement Motivation in Distance Education: An Experimental Study to Measure Students' Achievement Motive as Elicited by Achievement Arousal Conditions Given in Reference to, and with Emphasis on Written Assignments. *International Council for Distance Education Bulletin*, 14: 37-47.

In 1982, faced with 55,000 under-trained primary teachers, the Min. of Ed. in Kenya planned to revive in-service provision. 3,500 primary teachers a year were enrolled in a distance education scheme that involved the use of study guides, radio programmes, an attempt to improve the turn around time on marking of assignments, together with 21 weeks of face to face tuition over 3 years. The planning was informed by mostly American literature on achievement and motivation. The literature directed the project team to devise tasks that were tightly structured, had a single purpose, involved classroom application and were to be completed in a short time scale. The distance learning instruction was designed to help teachers enjoy a series of quick successes. The paper reports plans not outcomes.

Implications
Maintaining teachers' motivation is crucial in any distance education programme. It has to be carefully built in and cannot be left to chance.

Harber, C. (1987) The West Midlands-West Africa Project. *British Journal of In-Service Education*, 13(2): 86-90.

This report is about teacher training in the UK with the geography of Senegal and the Gambia as its focus. Nevertheless lessons for teacher training in general can still be learnt. One day general courses are evaluated as of little value for teacher change and even change to teachers values. It is better to spend the one day on using specific existing materials and then discussing their use.

Further references
Henderson, E.S. (1976) Attitude change in in-service training. *British Journal of In-service Education*, 2(2).
Henderson, E.S. (1976) An investigation of some outcomes of in-service training. *British Journal of In-service Education*, 3(1).

Baily, A. & Braithwaite, R. (1980) In-service education and the promotion of change in secondary schools. *British Journal of Teacher Education*. 6.

Hargreaves, J. & Grey, S. (1983) Changing teachers' practice: innovations and ideology in part-time B.Ed. courses. *Journal of Education for Teaching*, 9(1).

Chadwick, G. (1983) The effectiveness of in-service provision: what do we know ? *The Vocational Aspect of Education*, XXXV, No.90.

Implications

Get people familiar with new materials before you engage them in general conversation. Work from the specific towards the general.

Koivukari, A.M. (1987) Question Level and Cognitive Processing: Psycholinguistic Dimensions of Questions and Answers. *Applied Psycholinguistics*. 8(2): 101-20.

This is a report that follows from Ph.D. work on improving the tuition of the French language in secondary schools in Zaire. Although the author focuses on Saussures ideas on the components of the sign, the INSET programme of 36 hours of in-service, over 2 months, for 12 teachers was much more general. It included sessions on cognitive development, the psychology of learning and Berne's ideas on transactional analysis. Using direct observations the author detected changes in teachers classroom questioning styles with an increase in the use of open questions and a reduction in the use of closed questions.

Implications

The efficient development of skills may require a more general understanding by teachers than simply skills training.

Kouraogo, P. (1987) Curriculum renewal and INSET in different circumstances. *ELT Journal*, 41(3): 171-178.

Olivier, A.A. (1987) Correspondence Based Model for Training Teachers of the Gifted. *Gifted International*. 4(2): 59-63.

Osuala, J.D.C. (1987) ABE teacher training in Anambra State of Nigeria. *International Journal of Lifelong Education*, 6(3): 215-225.

This is a report of a survey of tutors working in adult literacy at the First School Leaving Certificate level in Anambara State. The major finding is that remuneration varies considerably with 172 out of the 303 sample never having been paid. Tutors lateness for class, or irregular attendance, can not be disciplined when people are unpaid. 97% of the sample said they would welcome training. For 84% this would be their first training. 40% had been tutors for less than 2 years, 38% for 3 to 5 years and 22% for more than 6 years.

Implications

Teachers are more dedicated than they are often given credit for. But poor pay or no pay means one cannot expect to demand certain standards of professionalism.

Akinyemi, K. (1986) A Study of Technophobia among Primary School Teachers in Nigeria. *Programmed Learning & Educational Technology*, 23(3): 263-69.

This is a bizarrely theorised paper that interprets 48 Ilorin primary school teachers lack of awareness and interest in educational technology as being a phobia. The author betrays himself with, "A few privileged primary schools in urban areas have some of the items listed above."

Implications
Teachers are more realistic than educational evangelists or researchers.

Basu, C.K. (1986) In-Service Teacher Training as Part of the Universal Primary Education World Bank Project in **Bangladesh**. *Performance & Instruction*, 25(4): 17-18.

250 Assistant Upazilla Education Officers (AUEOs) in Bangladesh were recruited into an in-service programme to upgrade the skills of 4,000 primary heads and 12,000 primary teachers. The AUEOs attended weekly training meetings and cascaded the message to primary teachers at fortnightly 2 hour meetings with the teachers. They were supported in this with modules of work comprising a series of two page leaflets for teacher use. The leaflets were deigned to:

- cover one topic at a time;
- be self-contained;
- have clear objectives;
- be carefully sequenced in the activities for the teachers;
- use the local language;
- provide practice and feedback evaluation questions;
- incorporate an element of pre-test and post-test.

Implications
In the long term results come from helping people within the existing organisational structures to do a better job rather than set up parallel structures.

Berg, O. van den. & Todes, M. (1986) In-service teacher education in the Cape Teachers' Professional Association: educational innovation in apartheid society. *Cambridge Journal of Education*, 16(3): 163-170.

This paper reports the history of the development of the Cape Teachers' Professional Association (CTPA) and its Education Research Committee (ERC) against a background of apartheid. What is of interest is the menu of project activities. These included: videotaped natural phenomena and demonstrations for use in science lessons; workshops on the use of the OHP; leadership skills courses; a Spring School crash course of 1 week in school subjects for pupils; Saturday School 10 week programmes; Teacher Opportunity Programmes to improve teaching skills.

Implications
Pupils are probably more enthusiastic about out of school activities than teachers. Teacher development on a voluntary association basis is possible. We don't have any good way of understanding or developing teachers' associations.

Chaudhri, M.M. (1986) **India**: From SITE to INSAT. *Media in Education & Development*, 19(3): 134-40.

Implications
"The problem does not lie in technology: India has a sophisticated technology at its disposal. The major problem lies in forming working relationships amongst researchers, script-writers and producers who are educated and urbanised to an extent where it has become difficult for them to comprehend the rural milieu and to develop an empathy with the child growing up in it."

Kogoe, A. (1986) Perceived Administrative Needs of School Executives in Togo. *Comparative Education*, 22(2): 149-58.

This paper draws attention to the fact that administration is not the same as leadership. Head teachers need to adopt leadership roles by closer instructional supervision. (In fact for secondary heads or heads in large schools this is not possible and delegation to heads of department is important. *My commentary*) The survey of 200 administrators and 177 teachers indicates that teachers expect leadership whereas administrators prefer to see themselves as just administrators.

Further references
Wood, C. (1975) The secondary school principal, manager and supervisor. Boston: Allyn and Bacon.

Implications
In-service training of head teachers to either take, or delegate, more active leadership through instructional supervision might take priority over in-service for teachers.

Olukoya, A. (1986) Teaching Medical Teachers How to Teach in Lagos, Nigeria. *Medical Teacher*, 8(2): 145-48.

This paper reports workshops for medical teachers run between 1979 and 1985 at the College of Medicine in Lagos. The scheme has been extended to other colleges. The focus of activity was to develop self-instruction packages for medical students. The enterprise was underwritten by Mager's ideas on learning objectives. The workshop format was of cycles of formal input, followed by evening assignments and then mornings of practical group work. Some medical instructors followed up the workshop with videoing their own teaching and then discussing their teaching with colleagues. Such activity changed teaching habits.

Implications
Highly skilled, well equipped teachers with relatively good salaries can adopt change.

Sheen, J. (1986) Disputed territory. *Youth in Society*, 115: 10-11.

1985

Coldevin, G. & Amundsen, C. (1985) The Use of Communication Satellites for Distance Education: A World Perspective. *Canadian Journal of Educational Communication*, 14(1): 4-5; 20-23.

Crossley, M. et al. (1985) INSET: Prospects and Practice in **Developing Countries.** *Journal of Education for Teaching*, 11(2): 120-32.

Holmberg, Borge. (1985) Applications of Distance Education in Kenya. *Distance Education*, 6(2): 242-47.

This paper comments on a distance education programme in Kenya and contrasts primary teachers, literacy tutors and paramedics. Where paramedics engage tutors on matters of course content, the education students are reported as only arguing over marks. The education programme contains material that is very arcane. The distance education experience is marred by slow administration, poor turn-around in marking assignments and still relatively high costs compared with local incomes.

Implications
Distance education is a solution with its own problems.

Special issue of the *Bulletin of the International Bureau of Education.* n234-35 p7-103; 204-06. on in-service teacher education.

Macdonald, M. Al. et al. (1985) Teacher Reaction to Innovation: A Case Study in a South African Setting. *Journal of Education for Teaching*, 11(3): 245-63.

This is a long description of the changes brought about through the SEP programme in South Africa. The headings used are:

- teacher as subject specialist
- teacher in the classroom
- teacher as professional
- teacher as employee.

The categories are mapped onto Gray's phases of:

- concern for security	with the teacher as subject specialist
- concern for methods	with the teacher in the classroom
- concern for aims	with the teacher as professional

The category of teacher as employee is flagged as alerting us to the problem of teachers' roles and role conflicts.

Implications
Teachers need different experiences at different times of an in-service programme. The early focus of in-service may be on subject content and only later the focus might shift to professional concerns.

Rogan, J.M. & Macdonald, M.A. (1985) The In-Service Teacher Education Component of an Innovation: A Case Study in an African Setting. *Journal of Curriculum Studies*, 17(1): 63-85.

The SEP programme in Ciskei, Transkei, Soweto and Durban has attracted attention for a variety of reasons. Project evaluators comment that teachers need to experience new ways of working, either directly or vicariously, with video, before they can have any confidence to adapt them. In the South African context, the upgrading of black teachers subject knowledge is more pressing than introducing new pedagogies. When teachers have moved through the security phase of developing a gap between their content knowledge and that of the students they can move onto the method phase. After teachers have security with new pedagogic methods they are then in a position

to adapt content and methods to suit their personal aims for the education of their students. Short regular meetings are more supportive of change than one off long workshops. The focus of supervisory visits should be on team-teaching, offering help and advice. The use of zonal clusters for grouping teachers on in service helps to focus the groups attention on local problems that may vary from urban to rural and from one part of the country to another.

Further references

Havelock, R.G. & Huberman, A.M. (1977) *Solving Educational Problems: The theory and reality of Education in Developing Countries.* Paris: UNESCO.

Beeby, C.E. (1966) *The Quality of Education in Developing Countries.* Cambridge MA: Harvard University Press.

Implications

Local groups, meeting regularly, building confidence in content is a good way to start in service for under qualified teachers. Local conditions allow for faster or slower confidence building through adaptive stages.

Venter, J. (1985) Developing an Enrichment Programme in a Junior Primary School. *Gifted Education International*, 3(1): 59-62.

Workshops for gifted children in Natal, S.A. are described. Teachers were surprised by how much time the preparation of activities took. The project was supported by the active involvement of parents and the local community. The reward for teachers came from the joy of the children in learning.

Implications

Teachers will gain intrinsic reward from changing their practice if they can see the effects in their students.

Wong, C. et al. (1985) Special Issue: Training of Trainers and Adult Educators. Part 2: Regional Reviews. *Convergence: an International Journal of Adult Education*, 18(3-4): 23-115.

This is a descriptive and discursive piece on training adult educators in **Shanghai.** There is an expectation by students and practice by teachers of didactic methods. A minor modification is to get tutors to organise pre-course study, then to give lectures and talks which are followed by group discussions. Finally, in the modified method, the trainees practice their own delivery under supervision. The hope is expressed that once political will has developed change will be swift and widespread.

Implications

As I read this I heard the echo of Ausubel's dictum on determining the students' ideas (in this case about how to teach) and starting to teach them from that base.

1983-4

Unattributed. Learning on Air. (1984) *Media in Education & Development.* 17(1): 36-39.

This is a report of the work of the National Education Radio Network (NERN), in **Thailand**, which started using about 8% of its air-time for teacher training. The expectation was that of the countries 360,000 teachers 50,000 might be involved in teacher development through radio. Bureaucratic demarcations of responsibility looked like stalling the project. One useful aside was on how well judged and well

timed consultancies can re-juvinate tired social institutions. The final comment is a throw-away line on how radio introduces some element of democracy into teacher training in that it can be switched off !

Implications

The minor point on re-juvinating tired social institutions might be the most important. That is, it may be more cost effective and sustainable to provide consultancies to existing institutions than to try to set up parallel ones.

Harper, D.O. (1983) Using Computer Assisted Learning for Teacher Education in **New Guinea**. *Teacher Education Quarterly*, 10(4): 54-60.

Zurub, A.R. & Rubba, P.A. (1983) Development and Validation of an Inventory to Assess Science Teacher Needs in **Developing Countries**. Jour*nal of Research in Science Teaching*, 20(9): 867-73.

This paper is a bit of a tease in that it reports the development of an instrument to be used to assess science teachers' perceptions of their own needs and then stops short of reporting what those needs are. The instrument was used with 444 grade 10-12 science teachers in Jordan.

Country + in-service

Citations for: in-service 1023; in service 917; inset 171.
Citations for sub-Saharan country + in-service/ in service/inset: 27.

Africa NOT South

Didillon, H. & Vandewiele, M. (1991) Interventions pedagogiques des psychologiques au service de l'enfant d'age prescolaire en Afrique Noir. *Scientia Paedagogica Experimentalis*, 28(1): 19-26.

Harber, C. (1987) The West Midlands-West Africa Project. *British Journal of In-Service Education*, 13(2): 86-90.

Botswana

Mugisha, R.X. & Mwamwenda, T.S. (1991) Vocational training, in-service courses and higher education for graduates in Botswana. *Studies in Higher* Education, 16(3): 343-354.

Kahn, M. (1990) Teachers, tutors and inspectors: views of pre-service teacher education in Botswana. *Educational Review*, 42(1): 3-12.

Burkina Faso

Kouraogo, P. (1987) Curriculum renewal and INSET in different circumstances. *ELT Journal*, 41(3): 171-178.

Kenya

Kitavi, M.W. & Westhuizen, P. C. van der. (1997) Problems facing beginning principals in developing countries: a study of beginning principals in Kenya. *International Journal of Educational Development*, 17(3): 251-263.

Malawi

Daniels, K.R. & Halamandaris, P.G. (1992) In-service training in Swaziland and Malawi: application of a process model for development education. *International Journal of Educational Management*, 6(5): 27-31.

Brown, M. & Reid, D.J. (1990) Black for the people: green for the land: red for the blood of the martyrs: a case study of INSET in Malawi. *Research in Education*, 44: 93-107.

Namibia

Peacock, A. (1993) The in-service training of primary teachers in science in Namibia. *British Journal of In-service Education*, 19(2): 21-26.

Nigeria

Ogundare, S.F. (1995) Correlates of perspectives: Nigerian pre-service social studies teachers and human rights education. *Education Today*, 45(3): 25-30.

Akpe, C.S. (1991) Choice of teaching subjects in pre-service teacher education in Nigeria. *Journal of Education for Teaching*, 17(2): 213-219.

Adigwe, J.C. (1991) Problem-solving processes of pre-service chemistry teachers in Nigeria. *Research in Science and Technological Education*, 9(1): 107-120.

Esu, A E.O. (1991) Inservice teacher education in Nigeria: a case study. *Journal of Education for Teaching*, 17(2): 189-199.

Onocha, C. & Okpala, P. (1990) Classroom interaction patterns of practising and pre-service teachers of integrated science. *Research in Education*, 43: 23-31.

Shaibu, S. (1990) Centralized/support service as a cost-effective way out of the school library chaos in Gongola State of Nigeria. *Education Libraries Journal*, 33(2): 23-33.

Dienye, N.E. (1987) The effect of inservice science education. *British Journal of In-Service Education*, 14(1): 48-51; 55.

Sierra Leone

Carey, J. & Dabor, M. (1995) Management education: an approach to improved English language teaching. *ELT Journal*, 49(1): 37-43.

South Africa

Bourne, R. (1995) Where the real work begins. *Education*, 185(10): 12-13.

Walker, M. (1993) Developing the theory and practice of action research: a South African case. *Educational Action Research*, 1(1): 95-109.

Wal, R.W.E. & van der. Linde, H.J. van der. (1991) Computer-assisted science instruction: an experience in developing communities within the South African context. *Educational and Training Technology International*, 28(3): 189-195.

Ballantyne, R.R. & Tooth-Aston, P.J. (1989) In-service environmental teacher training in an apartheid education system. *Environmental Education and Information*, 8(1): 1-10.

Vries, P. de. (1989) South African black teachers and the academic paper chase. *British Journal of Sociology of Education*, 10(4): 449-458.

Berg, O van den. & Todes, M. (1986) In-service teacher education in the Cape Teachers' Professional Association: educational innovation in apartheid society. *Cambridge Journal of Education*, 16(3): 163-170.

Sheen, J. (1986) Disputed territory. *Youth in* Society, 115: 10-11.

Sudan

Shommo, Mahasin I. (1995) Teaching home economics by a problem-solving approach in Sudanese secondary schools for girls. *British Journal of In-service Education*, 21(3): 319-329.

Swaziland

Daniels, K.R. & Halamandaris, P.G. (1992) In-service training in Swaziland and Malawi: application of a process model for development education. *International Journal of Educational Management*, 6(5): 27-31.

Lubben, F. (1994) The convergence of teachers' and providers' views on INSET needs: the case of the non-specialist physics teacher in Swaziland. *International Journal of Educational Development*, 14(1): 43-49.

Tanzania

Diatan, S. (1988) Teaching in Tanzania. *Links*, 13(3): 40-41.

Zambia

Miti, M. & Herriot, A. (1997) Action to improve English, mathematics and science (AIEMS): a case study in Zambia - the start-up process. *International Journal of Educational Development*, 17(2): 163-172.

Country + teacher development

Citations for: teacher development 682; teacher change 6.
Citations for sub-Saharan country + teacher development: 12.

Botswana

Duffy, A. (1993) Steps towards new horizons. *International Journal of Early Childhood*, 25(1): 49-53.

Cameroon

Bobda, A.S. (1993) English pronunciation in Cameroon: conflicts and consequences. *Journal of Multilingual and Multicultural Development*, 14(6): 435-445.

Lesotho

Crowther, S. (1995) Lesotho bound. *Modus*, 13(4): 113-115.

Sebatane, E.M. (1994) Enhancement of teacher capacities and capabilities in school-based assessment: Lesotho experience. *Assessment in Education*, 1(2): 223-234.

Namibia

Peacock, A. (1992) Developing science teaching in Namibian primary schools. *Primary Science Review*, 24: 6-8.

Nigeria

Adara, O.A. (1996) Impact of an outdoor educational strategy on teacher profile in environmental education. *International Journal of Educational Development*, 16(3): 309-317.

South Africa

Adler, J. (1997) Professionalism in process: mathematics teacher as researcher from a South African perspective. *Educational Action Research*, 5(1): 87-103.

Maher, S. (1995) Building a better conscience. *Child and Man*, 29(2): 10-12.

Kachelhoffer, P.M. (1995) Teacher enrichment programmes in Kwa Ndebele, South Africa. *Higher Education Policy*, 8(2): 19-22.

O'Neill, T. (1995) Implementation frailties of Guba and Lincoln's "Fourth generation" evaluation theory. *Studies in Educational Evaluation*, 21(1): 5-21.

Walker, M. (1994) Professional development through action research in township primary schools in South Africa. *International Journal of Educational Development*, 14(1): 65-73.

Moja, T. (1992) Teacher education from classroom broadcasts for the new South Africa. *Educational Media International*, 29(3): 171-174.

Country + teacher training

Citations for teacher training: 354.

Citations for sub-Saharan country + teacher training: 6.

Ethiopia

Honig, B. (1996) Multilingual educational reform and teacher training in Ethiopia. *Language and Education*, 10(1): 1-12.

Ghana

Carr, R. (1987) The modular teacher training programme, Ghana. *Open Learning*, 2(3): 50-51.

Nigeria

Akpe, C. S. (1988) Using consumer evaluation to improve college curricula in Nigerian teacher training. *Journal of Education for Teaching*, 14(1): 85-90.

Osuala, J.D.C. (1987) ABE teacher training in Anambra State of Nigeria. *International Journal of Lifelong Education*, 6(3): 215-225.

South Africa

Ballantyne, R.R. & Tooth-Aston, P.J. (1989) See BEI Country + in-service

Tanzania

Msanjila, Y.P. (1990) Problems of teaching through the medium of Kiswahili in teacher training colleges in Tanzania. *Journal of Multilingual and Multicultural Development*, 11(4): 307-317.

British Education Index

BEI searched in May 1998

Journals carrying articles cited (40)

Journal titles	A	B	C	D
Adults learning	-	-	-	1
Assessment in Education	-	1	-	-
British Journal of In-service Education	4	-	-	-
British Journal of Sociology of Education	1	-	-	1
Cambridge Journal of Education	1	-	-	-
Child and Man	-	1	-	-
Compare	-	-	-	1
Education	1	-	-	-
Education Libraries Journal	1	-	-	-
Education Today	1	-	-	-
Educational and Training Technology International	1	-	-	-
Educational Action Research	1	1	-	-
Educational Media International	-	1	-	-
Educational Review	1	-	-	-
ELT Journal	2	-	-	-
Environmental Education and Information	1	-	1	-
Gender and Education	-	-	-	1
Higher Education Policy	-	1	-	-
International Journal of Early Childhood	-	1	-	-
International Journal of Educational Development	3	2	-	3
International Journal of Educational Management	2	-	-	1
International Journal of Lifelong Education	-	-	1	1
International Journal of Qualitative Studies in Education	-	-	-	1
International Review of Education	-	-	-	3
Journal of Community Education	-	-	-	3
Journal of Education for Teaching	2	-	1	-
Journal of Multilingual and Multicultural Development	-	1	1	-
Language and Education	-	-	1	-
Links	1	-	-	-
Modus	-	1	-	-
Open Learning	-	-	1	1
Primary Science Review	-	1	-	-
Prospects	-	-	-	3
Research in Education	2	-	-	-
Research in science and technological Education	1	-	-	-
Scientia Paedogogica Experimentalis	1	-	-	-
Studies in Educational Evaluation	-	1	-	-
Studies in Higher Education	1	-	-	-
System	-	-	-	1
World Development	-	-	-	1
Youth in Society	1	-	-	-

A - country + in-service or inset
B - country + teacher development
C - country + teacher training
D - country + basic education

Country + inservice teacher education

Citations for inservice teacher education: 2,731.
Citations for sub-Saharan country + inservice teacher education: 65.

Africa NOT South

Carey, J. & Dabor, M. (1995) Management Education: An Approach to Improved English Language Training. *ELT Journal*, 49(1): 37-43.
Hawkridge, D. (1991) see Kenya and Zimbabwe
Tambo, L.I. (1991) Primary Health Care in Africa: Implications for Teacher Education. *Action in Teacher Education*, 13(3): 48-52.
Wong, Charles. et al. (1985) Special Issue: Training of Trainers and Adult Educators. Part 2: Regional Reviews. *Convergence: an International Journal of Adult Education*, 18(3-4): 23-115.

Burkina Faso

Kouraogo, P. (1987) See BEI + country + in-service

Eritrea

Guariento, W. A. (1997) Innovation Management Issues Raised by a Distance-Learning Project in Eritrea: Can Such Projects Be Successfully Transplanted from One Developing Country to Another? *System*, 25(3): 399-407.

Kenya

Wood, A. et al. (1996) Environmental Education in Suffolk. *Environmental Education*, 51: 4-12: 21-25.
Hawkridge, D. (1991) Computers in Third World Schools: African Advances. *Educational & Training Technology International*, 28(1): 55-70.
Gitau, B.K. (1987) Achievement Motivation in Distance Education: An Experimental Study to Measure Students' Achievement Motive as Elicited by Achievement Arousal Conditions Given in Reference to, and with Emphasis on Written Assignments. *International Council for Distance Education* Bulletin, 14: 37-47.
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